THE BUILDER

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ARCHITECT & CONSTRUCTOR

VOL. CLVII NOVEMBER 17 1939 No. 5050

SUMMARY OF CONTENTS

CURRENT ARCHITECTURE

(Illustrated)

PAGE

Government Buildings.

ST. ANDREW'S HOUSE, CALTON-HILL, EDINBURGH. MR. THOMAS S. TAIT, F.R.I.B.A., OF SIR JOHN BURNET, TAIT AND LORNE, ARCHITECT ... 696, 703 to 708

Decontamination Centres.

FOR THE WEST SUSSEX POLICE. MR. C. G. STILLMAN, F.R.I.B.A., COUNTY ARCHITECT ... 709

ARTICLES AND NEWS.

LEADER: MEN WITHOUT WORK! ... 695
NOTES AND NEWS ... 697
OBITUARY: THE LATE MAURICE E. WEBB ... 711
CORRESPONDENCE ... 711
EMERGENCY INQUIRY BUREAU ... 713
INSTITUTION OF CIVIL ENGINEERS: PRESIDENTIAL ADDRESS BY SIR CLEMENT HINDLEY ... 713
TIMBER CONTROL: HOW IT WORKS ... 714
LAW REPORT ... 714
IN PARLIAMENT ... 715

A.R.P. INFORMATION.

WAR-TIME BUILDING PRACTICE—4. BILLETING ACCOMMODATION—III. BY R. COTTERELL BUTLER, A.R.I.B.A. ... 698
A.A.S.T.A. LECTURES ON BLAST-PROOF SHELTERS ... 712
A.R.P. SCHEMES... ... 716

BUILDING INFORMATION.

NEW BUILDINGS IN LONDON ... 715
CONTRACTS OPEN ... 717
CURRENT AND PROPOSED BUILDING WORK ... 719
RATES OF WAGES IN THE BUILDING INDUSTRY ... 720
PRICES CURRENT OF MATERIALS... ... 721
THE SCOTTISH BUILDER ... 722
TENDERS ... 723

EVERY FRIDAY 9D.

THE BUILDER LIMITED

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'At no time the slightest trouble through leakage'

THREE WATER TOWERS IN THE EARTHQUAKE-DEVASTATED AREA OF BEHAR, INDIA.

Executive Engineer, Public Health Circle, BEHAR:
H. WHIPP, B.Sc., A.M.Inst.C.E.

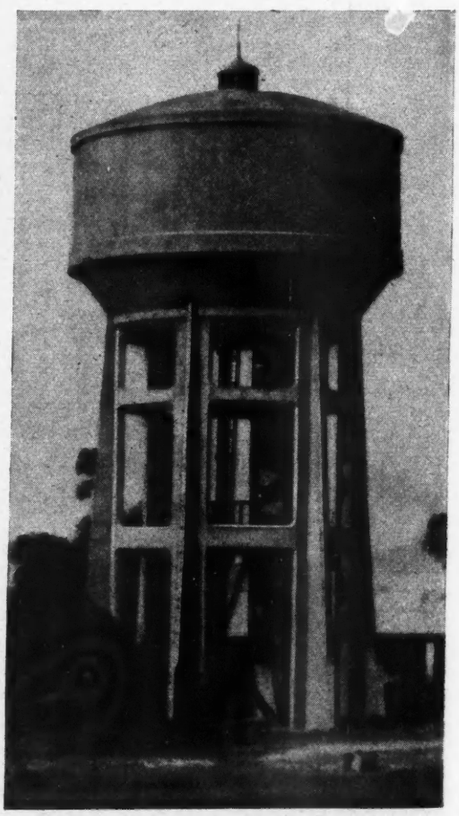
Superintending Engineer, P.H.C., BEHAR:
S. E. PLATT, O.B.E., B.Sc.

Contractors:
Messrs. JARDINE MENZIES & COMPANY,
CALCUTTA.

TOP LEFT: RANCHI, 20,000 gallons.

CENTRE: BHAGALPUR, 50,000 gallons.

BOTTOM RIGHT: MONGHYR, 120,000 gallons



'PUDLO'

BRAND
CEMENT WATERPROOFER

THE great earthquake of 1935, in Behar, seriously damaged the towns of Ranchi, Bhagalpur and Monghyr — the latter being almost wiped out—and these three water towers form part of the new water supply services. They are built of reinforced concrete, not of itself waterproof, but the tanks are rendered internally to a thickness of $\frac{3}{4}$-inch with $2\frac{1}{2}$ parts of sand to one part of Portland cement made impervious by the addition of 3 lb. of 'PUDLO' Brand waterproofing powder per 100 lb. of the cement. The contractors, Messrs. Jardine Menzies & Co., of Calcutta, wrote:— "We are glad to inform you that these towers are absolutely watertight, and that at no time have we experienced the slightest trouble through leakage." Their experience confirms that of many engineers in India where the conservation of purified water is a problem of the greatest importance.

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THE BUILDER

INCORPORATING

"ARCHITECTURE" AND "THE BRITISH ARCHITECT"

Vol. CLVII NOVEMBER 17 1939 No. 5050

MEN WITHOUT WORK!

THE announcement was made last week by the Ministry of Labour and National Services that between September 11 and October 16 there has been an increase of 35,998 in the number of men unemployed in the building industry. This represents a total of 129,948 men out of work at October 16, and the percentage increase for the period in question was 3.5, as compared with 1.9 in the corresponding period in 1938.

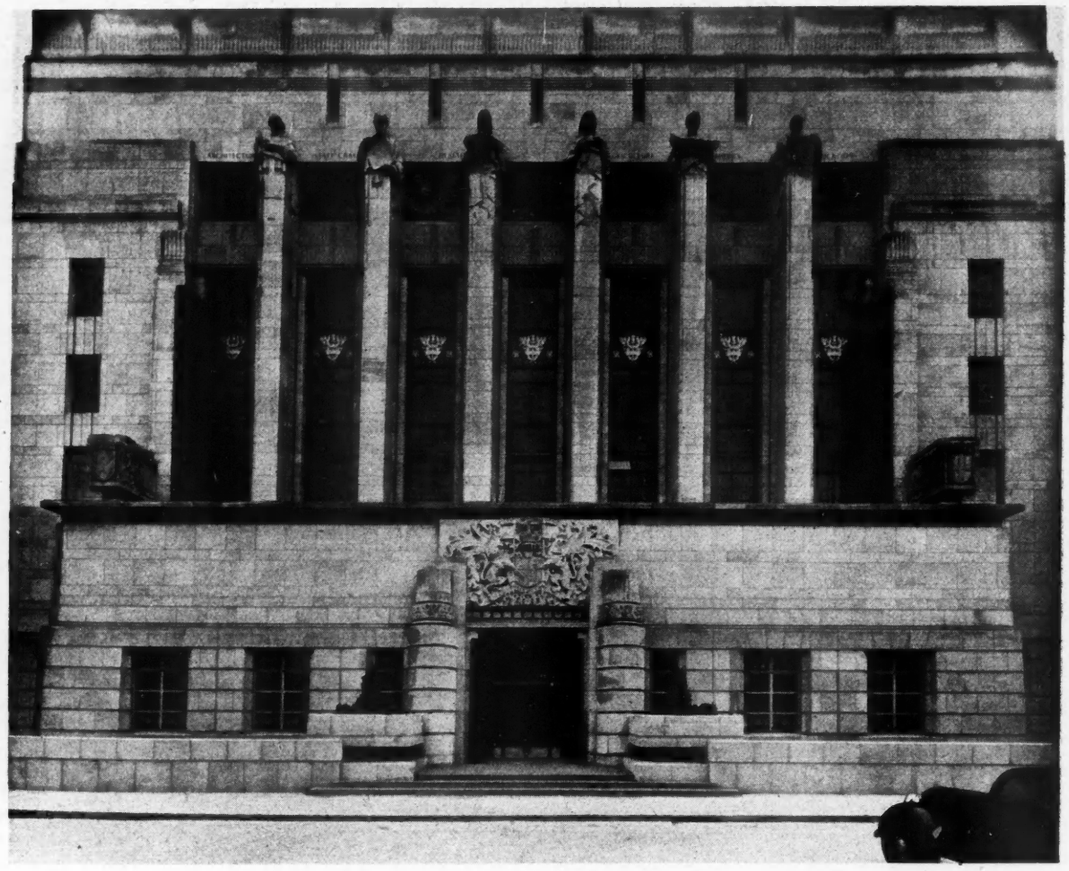
This is a state of affairs not only in itself distressing but symptomatic also of the condition of an industry whose motive power is being allowed to run down. The figures given above indicate that the increase is much more than seasonal; it can be accounted for only by a decrease in Government defence work or by the fact that private and civil building work is coming to a dead stop. Of these two alternatives the former is not likely, and we are left with the second alternative, whose probability is reinforced by factors—chiefly the absence of a scheme of war risk insurance, the Government's direct advice to local authorities to stop work upon slum clearance, educational schemes, etc., and the difficulty of obtaining certain essential controlled materials—of which the industry is fully aware.

Any tendency for building unemployment figures to rise must be closely watched. Those figures are related to, and reflect, unemployment in the allied professions and trades, and it is true to say that for every operative out of work an annual turnover of wages amounting to £500 is lost to the country.

What is to be done? Nothing, in our opinion, will prevail short of an appeal to the Prime Minister. That appeal must have the backing of the entire building industry and must be supported with facts and figures showing the inroads made by restrictions upon the greatest employing agency in the country. Factual evidence bearing upon this is in process of being secured by the Building Industries' National Council. The Council—now without some of the information hitherto made available to the industry from outside sources, including the building plans statistics—has circularised Allied Societies of the R.I.B.A. and other bodies requesting particulars of schemes held up, including the reasons for stoppage. Materials manufacturers have also been approached with a view to the compilation of a summary of capacity, output and orders cancelled in September.

It is an essential part of any future appeal that complete figures be available for Great Britain both of works stopped and of materials available; the latter would be particularly valuable in view of the belief, already well substantiated, that supplies of material adequate for all normal civil building works are available. A special duty rests, therefore, upon all the materials manufacturers to support the Council in its effort. It is possible that for the moment some manufacturers are actively engaged in production, but this is far from true of the majority; all will be in the same state of suspended animation unless the Government be brought to full realisation that not only is it bad business from the revenue aspect to allow a great industry like building to collapse, but that it is a lengthy and costly work to rebuild it when peace shall come.

The importance of a united front in making any appeal should need no emphasis. Deputations by individual sections of the industry cannot hope to carry the weight of one representing the entire industry, backed with incontrovertible evidence of the need for Governmental stimulation. We believe, therefore, that individual sections can best serve the industry and themselves by giving their Council every support in its efforts for the common cause.



ST. ANDREW'S HOUSE, CALTON HILL, EDINBURGH.

Few architects have been given the opportunity to plan an important building on a site equal to that occupied by St. Andrew's House, the new Government offices on the Calton Hill, Edinburgh. To the south the existing stone walls rise sheer out of the cliff side, while the Calton Mound forms an interesting background for the new building. The offices are fully illustrated elsewhere in this issue, but a detail view of the main entrance is shown above. The Royal Coat of Arms of Scotland was designed and carved by Mr. Alexander Carrick, R.S.A. ; the two heraldic panels and shields at first floor were executed by Miss Phyllis Bone, A.R.S.A. ; while Sir W. Reid Dick, R.A., carried out the six symbolic figures at high level. The 12-ft. high bronze entrance doors were executed by Mr. Walter Gilbert. The architect is MR. THOMAS S. TAIT, F.R.I.B.A., of Sir John Burnet, Tait and Lorne.

NOTES AND NEWS

Hutments for Civil Servants.

It was announced early this week that the Government have accepted a tender for the construction of the first of the groups of hutments in which it is proposed to house Civil Servants who have been dispersed from London to provincial towns. Other sites have been acquired for a similar purpose, and schemes for erecting more hutments—which may not all be of timber construction—are under consideration. As these hutments become available there will begin a gradual transfer to the new quarters of Civil Servants from some of the buildings which have been temporarily requisitioned for their use.

Forthcoming Exhibition at the Royal Academy.

The Royal Academy, in collaboration with other principal art societies, is organising an exhibition, to be held at the Royal Academy in January-March, 1940, at which the members of the societies and other artists will be invited to exhibit paintings, drawings, engravings, lithographs and sculpture for sale in aid of the Lord Mayor's Red Cross and St. John Fund and the Artists' General Benevolent Institution. The King and Queen have consented to give their patronage to the exhibition. An executive committee, with Sir Edwin Lutyens, P.R.A., as chairman, has been appointed and the invitations to artists will be issued shortly.

Reopening of Schools: Necessary Safety Measures.

The Board of Education has informed the local education authorities of the steps which they should take before schools in evacuation areas can be reopened. No school will be reopened until a reasonable amount of protection has been provided. Assistance in the early preparation of plans will be given to local education authorities through the regional committees of architects and surveyors and consulting engineers. Authorities will receive a minimum grant of 50 per cent. towards the cost of any protection provided.

Certain suggestions are made for the protection of buildings. Buildings which are quite suitable for opening include frame buildings of at least two storeys, substantial buildings of two storeys or more, and substantial well-built single-storey buildings if the roof is of solid construction—namely, if it gives, with the ceiling, protection equivalent to about 4 in. of reinforced concrete. Old buildings of poor or dilapidated structure and single-storey buildings with no rooms or outbuildings covered by a ceiling or roof of substantial construction are unsuitable.

The National Theatre: Designs to be Completed.

The National Theatre Committee announces that Sir Edwin Lutyens and Mr. Cecil Masey will complete their designs forthwith, so that they may be ready for the building of the theatre so soon as the war comes to an end. In the meanwhile, as their contribution in the present emergency, the National Theatre Executive Committee have offered the theatre site in South Kensington to the Government for any purpose that may be thought desirable during the period of the war.

Competition for Waverley Exhibition Hall: Exhibition of Designs.

An exhibition of the designs in connection with the competition for a new Exhibition Hall on site of Waverley Market, Edinburgh, is being held in the Royal Scottish Academy galleries, The Mound, Princes-street, Edinburgh, until November 28. The exhibition will be open daily, except on Sundays, from 2 p.m. to 6 p.m., and on November 21 and 28 the exhibition will also be opened from 6 p.m. to 8 p.m. Admission free. The winning design in this competition—by Messrs. Donald Dex Harrison and Ernest Seel, AA.R.I.B.A. (both ex-students of the Leeds School of Architecture), and Mr. T. M. Cartledge, B.Sc.—was illustrated in our last issue. Twenty-three designs were submitted.

A Building Centre Proposed for Eire.

In his inaugural address to the Architectural Association of Ireland, the new President, Mr. H. T. Kennedy, B.Arch., M.R.I.A.I., expressed the opinion that building costs in Ireland were far too high and that the creation of a Building Research Commission and a Building Centre for Dublin were long overdue. The Government was aware of the difficulties under which the practising architect suffered, but it was not reasonable to expect it to act on its own initiative. The architects themselves would have to formulate a scheme. The general stock-taking of materials could be carried out by an independent commission consisting largely of architects and other technical men, and the manufacturers would be asked to co-operate. When sufficient progress had been made, a Building Centre on the lines of those at London, Copenhagen and Stockholm would be established.

Notes from the Building Research Station.

As it may not be practicable under war-time conditions to maintain the continuity of the series of the Notes from the Information Bureau of the Building Research Station, further Notes will be issued at but irregular intervals. It is likely, too, that the occasion for their issue will arise not from consideration of some normal building problem, but of some problem of war-time construction of whatever nature. It is hoped that with the return of normal conditions it will soon be possible to re-establish the normal continuous series.

The Replanning of Ramsey, Isle of Man.

Mr. E. Prentice Mawson, F.R.I.B.A., of Messrs. T. H. Mawson and Son, 13, Victoria-street, London, S.W.1, has prepared a scheme for the replanning of Ramsey. It provides for the demolition of old portions of the town and their rebuilding in Manx quarried stone. The cost is estimated at £200,000.

CORRESPONDENCE.
Correspondence and an Obituary notice of the late Maurice E. Webb, F.R.I.B.A., will be found on page 711.

Control of Elevations, Chester.

Mr. Harold A. Dod, M.A., F.R.I.B.A., has been made a member of the Advisory Committee appointed under the provisions of Section 139 of the Chester Corporation Act, 1929, in place of the late Sir Percy Worthington.

An Appointment.

Mr. Walter Underwood, A.R.I.B.A., has been appointed chief architect of the architectural department of the Scottish Co-operative Wholesale Society, Glasgow.

Professional Announcements.

Messrs. Reynolds and Young, quantity surveyors, announce that they have resumed occupation of their offices at Premier House, 150, Southampton-row, London, W.C.1, where all communications should now be sent. Telephone: Terminus 3186.

Messrs. Norman and Dawbarn, architects and consulting engineers, announce that their offices at 60, Buckingham Palace-road, S.W.1, and at Julian Hill, Weybridge, Surrey, are closed; their only address and telephone number are now "Beechcroft," Heathside-road, Woking, Surrey (Woking 2602). When necessary, however, appointments can still be kept at 60, Buckingham Palace-road.

IN 1914.

War Conditions in Contracts.

Since we have never held that there was any necessity for additional safeguarding clauses in building contracts, we hope that contractors will withdraw their demands for them. It would be better for all to impress the general public with what is the broad fact—that those who can build now are likely to be able to do so at less cost than after the war, when the timid who have waited will find that they have to pay for their timidity in enhanced prices.

Art and Recruiting.

Something is wrong, we are told, with our method of raising recruits . . . it is all too formal, cold and unsympathetic. . . The truth is that art in some form or other—whether it be poetry, oratory, music, or another—is the only medium through which appeals to the heart and the imagination can be made, and if those who still seem indifferent to their country's call are to be roused to a lively sense of their duty and their opportunity it will be by the power of art and art alone.

Notts and Derby A.A. on the Kaiser.

"I am not sanguine enough to think that a protest from a local architectural society such as ours will greatly impress the 'master criminal' of Europe, . . . but for our own satisfaction and relief I eagerly take this opportunity to place on record our abhorrence of the barbarism and unholy vandalism which has robbed the whole world of some of its choicest architecture."

Extract from the Presidential Address of Mr. Harry Gill to the Nottingham and Derby Architectural Society.

From *The Builder*, November 20.

WAR-TIME BUILDING PRACTICE

By R. Cotterell Butler, A.R.I.B.A.

4.—BILLETING ACCOMMODATION—III.

EQUIPMENT AND FITTINGS.

As with the design of the structural frame-work of buildings for the provision of temporary sleeping accommodation, the final detailing of fittings and equipment cannot properly be undertaken until the precise manufacturing facilities available for production have been thoroughly studied. Economy of material and labour is of such importance that only by the closest co-operation between the designer and manufacturers, who thoroughly understand the available fabrication processes, can a proper measure of efficiency be reached.

However, it is of interest to consider the general principles underlying the design of such equipment in order to review the various types of fitting which should receive consideration, and the better to appreciate the potential value of any manufacturing process.

The fittings necessary for the equipment of accommodation units are but few, and they must be simple, but their design must take into full consideration a large number of important aspects.

Fundamentally, equipment is only required for the provision of a suitable place to sleep, and to store clothes and personal belongings. The available types of sleeping unit are as follows :

BEDS.

Single tier and double tier.

BED-BUNKS.

Single-tier beds surrounded on two or three sides by walls, partitions, or fittings.

BUNKS.

Two- and three-tier types.

The storage of clothing may be carried out by means of either wardrobe-type lockers, or low-level lockers, which may profitably form seats.

The design of these fittings, together with the air-space and general ventilation requirements of the type of person accommodated, determines the actual spacing of units, and hence the ultimate dimensions of the accommodation units. If care is not taken in the determination of sleeping-unit and locker sizes, considerable errors will occur in the final layout, owing to the multiplication brought about by the large number of units under consideration.

Suggestions for spacing arrangements—together with some critical dimensions obtained from an analysis of the requirements of various conditions—will be found in the first article dealing with billeting accommodation published in *The Builder*, and reference to this should be made when considering the detailed drawings illustrated here.

VERMIN.

Without any doubt, the most important consideration in the design of fittings is that of ensuring wherever possible that no harbourage for vermin is provided. It must not be thought from the emphasis laid upon this statement that evacuees are necessarily that class of person usually associated with verminous conditions, but it must be remembered that evacuation measures are bound to result in large groups of people sharing accommodation. A single child or adult may easily contaminate many others in a remarkably short space of time, unless adequate arrangements are made whereby the cleansing of fittings and accommodation space may easily be carried out, and the fittings do not offer natural harbourage to vermin.

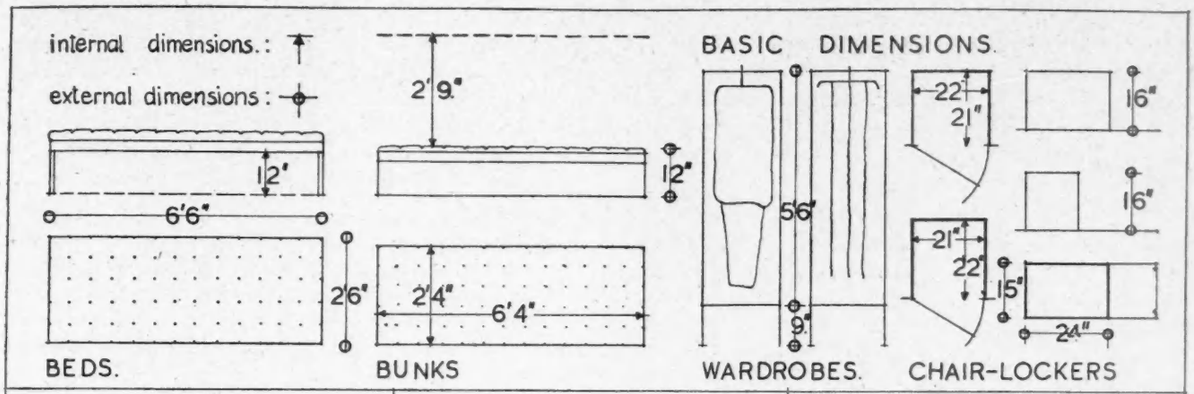
The bed bug : *Cimex lectularius Linn* is a nocturnal insect which lives in cracks and crevices in furniture or walls, as well as in bedding and upholstery. To prevent its development, a maximum continuity of surface must be aimed at both in the design of the finishes of structures and of fittings and equipment. Joints in woodwork should therefore be firmly cemented together, steel should be welded, and both should be finished with penetrating paints or varnishes which will effectively seal all crevices. Upholstery—unless easily removable for cleaning—should be avoided, as should all unnecessary skirtings, architraves or mouldings, and the design of fittings and equipment should make the cover fillet (unless cemented in position) entirely unnecessary. Wallpaper or similar surface treatments are most undesirable, and easily washable finishes should be arranged where possible.

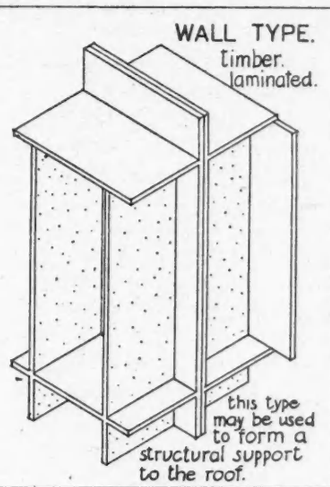
The human flea, *Pulex irritans Linn*, is not so prone to take refuge in structural cracks and crevices, but is generally carried about on the body of the infested person. The remedial measures suggested for the bed bug will, however, help to avoid its harbourage by facilitating cleaning operations.

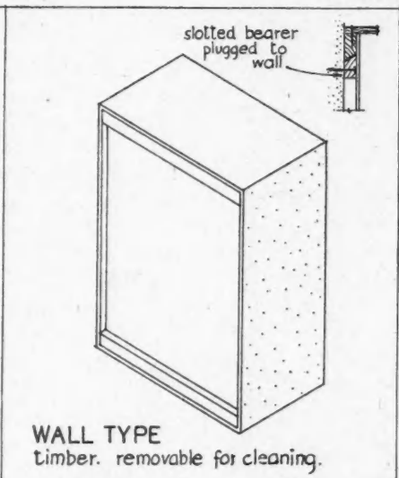
SUPPORTS TO FITTINGS.

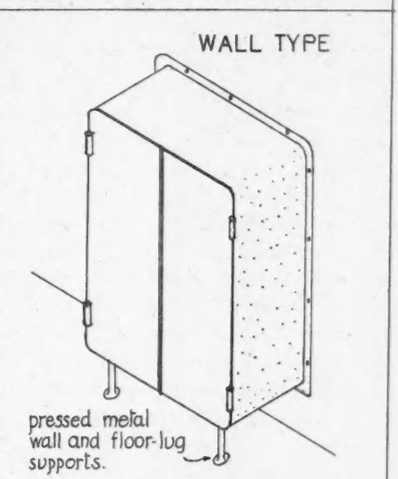
In addition to the necessity of avoiding crevices in fittings and finishes, the design of equipment should arrange for easy cleaning, dusting and sweeping, and plinths to fittings should either make direct contact with the floor finish or be omitted entirely, as nothing is more difficult than attempting to remove dust from floor level spaces at the junction of the floor finish and the plinth of a fitting. Where the design of the fitting permits, it may be supported upon legs—sufficiently clear of the floor to allow the space below the fitting to be easily swept out, and the legs of the fitting should themselves make connection with the floor at right angles, and for the full extent of the supporting surface.

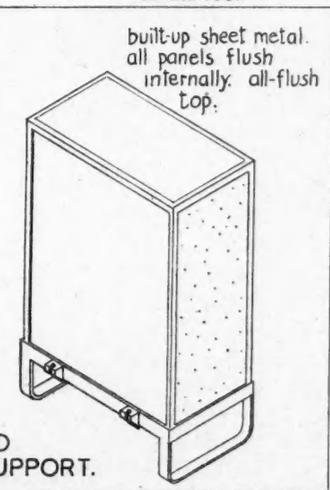
Where welded oval or circular metal tubing forms a supporting leg—a number of designs based on this principle will be found in the schemes illustrated here—it is desirable that the unit be made so that it can be lifted from the floor for sweeping, as the bottom rail of the support will rarely make entirely dust-proof contact with the floor. Tubular

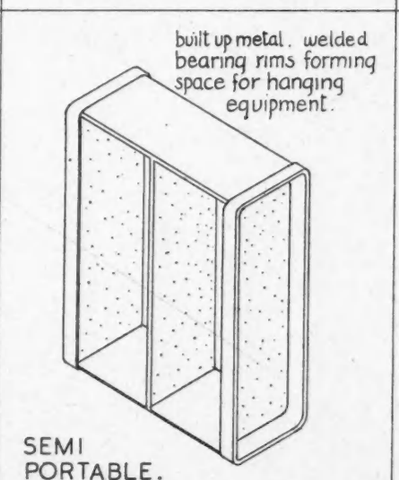


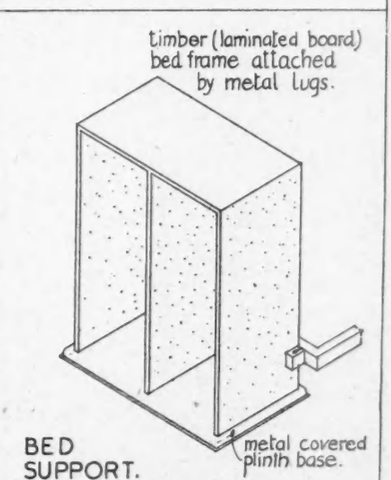


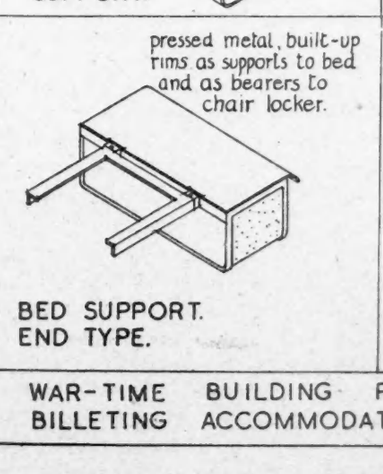


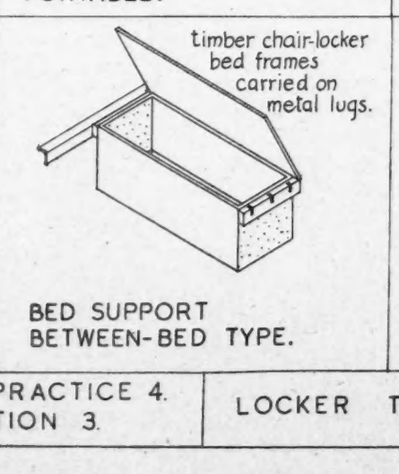


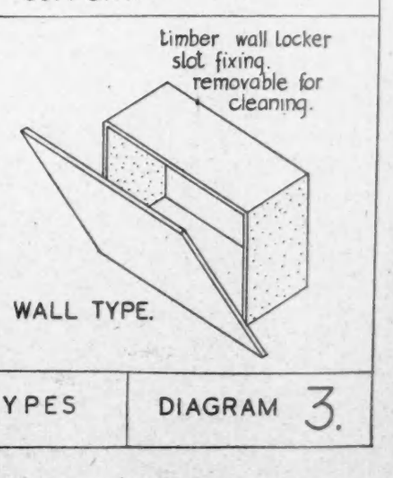












WAR-TIME BUILDING PRACTICE 4. BILLETING ACCOMMODATION 3.	LOCKER TYPES	DIAGRAM 3.

legs without a bearing-rail, having either a ball runner or a socket screwed direct to the floor, are quite satisfactory, and the latter type of fixing is without doubt the best for permanently fixed units. With this type of fitting, a non-bearing bottom rail is often required to stiffen the leg, and if this is so it should be at least six inches above the floor—preferably more.

In the case of wardrobe or chair-locker fittings constructed of wood, either the unit may stand directly upon the floor surface, or the sides may be continued down to form legs. Under no circumstances should a partially sealed space be arranged between the inside bottom of the unit and the floor, as this not only provides an excellent breeding space for bugs, but will tend to collect moisture when the unit is washed out.

The temptation to provide some form of hollow plinth should therefore be overcome, and the lower parts of the sides and doors of fittings should be provided with kick-plates instead. In actual practice, by selecting a suitable finish the necessity for kick-plates may be dispensed with, as the wear on the base of the fitting over the period in use will rarely be enough to justify the expense of plates, and a considerable degree of resistance may be obtained by using a suitable wood having a penetrating stain, or a hard synthetic resin varnish as its finish which will not easily show scratches.

A useful detail, where it is desired to fix a permanent fitting in position on the floor, is to allow the bottom of the wardrobe or locker to project a short distance beyond the sides (or to make the unit without a base at all, having a fixing batten at the base of the sides) and to cover this with a light metal fillet, cemented on to the base by a synthetic resin or bituminous mastic. The screws holding the unit in position may then be passed directly through the metal fillet and the base. This fitting is illustrated in diagram 3, page 699.

STRUCTURAL VALUE OF FITTINGS.

In order to effect a maximum economy, fittings should be employed wherever possible to support or stiffen other fittings or the structure itself.

A centre-spine consisting of a double row of wardrobe lockers can be made to form a valuable support to the roof of the structure, helping to stiffen the whole framework, and to reduce the dimensions of the roof timbers thereby. Again, a suitable form of bunk unit may considerably help to increase the rigidity of the wall against which it is fixed, and provided the designer thinks of the fittings in the same terms as that of the general structure, and designs them together, the total material requirements of a unit structure may be effectively reduced.

While fittings may only effect structural economies to a certain limited extent, the value of one fitting as a support to another is probably the secret of really efficient design for war-time purposes. This point has been fully borne in mind in preparing the designs illustrated, and many of the units are entirely dependent upon each other. However, it must not be forgotten that the increase in economic efficiency to be obtained by combining, say, a wardrobe unit with a bed fitting, is bound to result in a reduction of flexibility. In the case of a system required purely as a war-time measure, this is by no means serious, the limited flexibility often enabling arrangements to be maintained in better order, by preventing disarrangement through evacuees failing to replace units in the best positions to obtain even spacing and an equal standard of amenity for all.

However, where the building—though an urgent war-time measure—is of the type and in a situation which will permit its use after war, the combination of units to increase economic efficiency should be undertaken only when it is quite certain that the consequent loss in flexibility will not be a disadvantage.

MATERIALS AND FINISHES.

It may generally be expected that the selection of materials for the production of fittings will result in the choice of either metal or timber, and of the metals used, iron and steel will almost certainly be the most common. Should an acute shortage of suitable supplies of these materials ever occur, or should the labour necessary—owing to its employment in other undertakings—cease to be available, there remains the possibility of plastic material such as bakelite *phenol formaldehyde* or other synthetic resin products being used. It is without question that fittings could be produced in these materials with little difficulty, but it is not anticipated that this will be an economic measure unless conditions considerably alter.

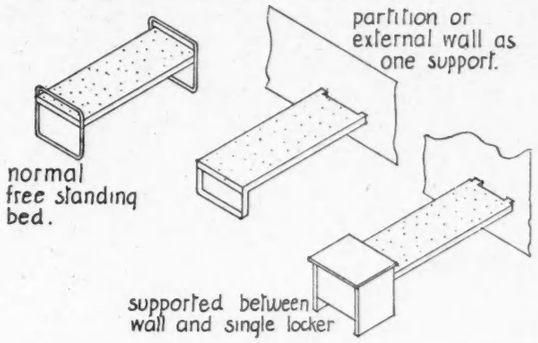
Owing to the fact that most metals are adapted to highly mechanised mass-production methods, metal fittings will probably be found to provide the most economic solution to the problem at the moment. Considerable plant is at this moment already available for production of both pressed metal and built-up metal fittings of the kind required. Between the two systems—providing each is equally efficiently carried out—there is little to choose, and the natural size limitations will probably determine when pressing methods cannot be used.

Built-up units in mild steel plate and rods or angles will usually make use of automatic autogenous welding methods, operated by electrical welding plant. Continuous welding between plate and stiffener should always be employed to prevent crevices occurring.

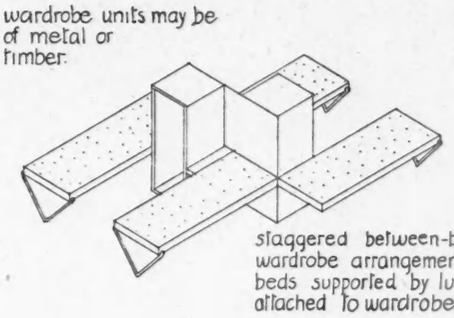
Where metal pressings are used in tubular frames "spot" welding may be employed, and will usually be found most satisfactory and practicable. Adequate space between the tubes and the pressings must be left (except at the welds) in order that cleaning may be easily carried out, and harbourage of dust or vermin prevented.

The use of laminated board, block board and plywood will considerably help to effect a high measure of mass-production in the manufacture of timber fittings. Where these materials are employed, it is possible to dispense with the use of framing and to make the sides, tops and bottoms of the units sufficiently strong to carry the weight and to withstand the bending moments they are likely to meet. By this elimination of framing, the number of joints in a fitting may be reduced,

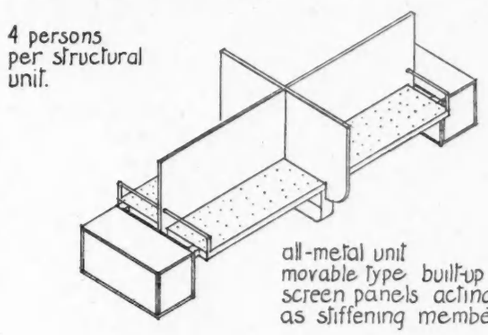
SINGLE-BED TYPES.



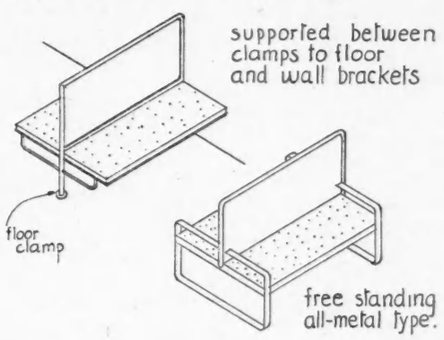
BED-WARDROBE COMBINATION.


wardrobe units may be of metal or timber.
staggered between-bed wardrobe arrangement. beds supported by lugs attached to wardrobe sides.

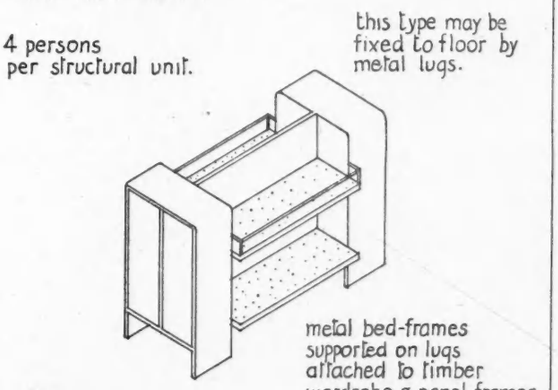
DUAL BED-BUNK UNIT.



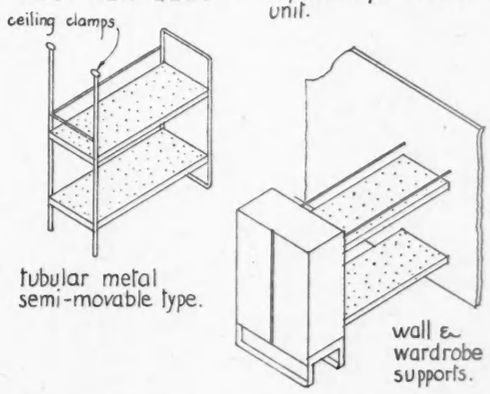
SINGLE BED-BUNK TYPES.



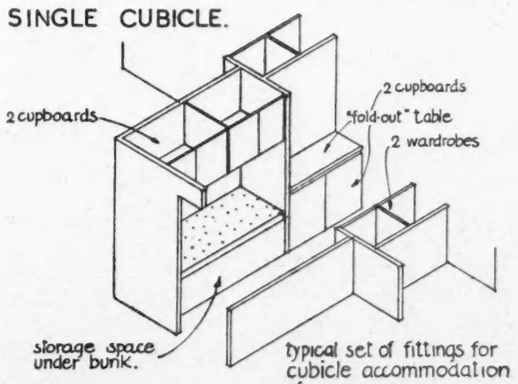
TWO-TIER BUNK.


4 persons per structural unit.
this type may be fixed to floor by metal lugs.
metal bed-frames supported on lugs attached to timber wardrobe & panel frames.

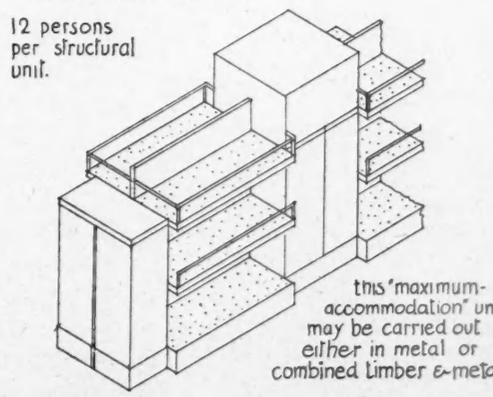
TWO-TIER BEDS.



SINGLE CUBICLE.



THREE-TIER BUNK.


12 persons per structural unit.
this "maximum-accommodation" unit may be carried out either in metal or combined timber & metal.

WAR-TIME BUILDING PRACTICE. 4.
BILLETING ACCOMMODATION 3.

SLEEPING UNIT TYPES

DIAGRAM 4.

and the danger of crevices avoided. Joints between tops, bottoms and sides of such units may be made mechanically with or without the use of wood or metal dowels, and adequate rigidity may thus be obtained.

Combinations of wood and metal will often have to be employed, and where they occur it is particularly necessary to cement the junction between the two materials to avoid spaces. Synthetic resin mastics will usually be found most satisfactory for this purpose.

Metal fittings will normally receive a stoved enamel or similar finish, and adequate protection to the metal may be provided either by preliminary treatments such as tinning, galvanising or sherardising, or by the thickness of the final coat itself. In the case of wood generally, two possible techniques are available; either a penetrating stain, often in itself a preservative, or a paint-and-varnish finish may be used. A high measure of resistance to the penetration of moisture or vermin may, of course, be obtained by impregnating woodwork under pressure, by phenollic or other resins, afterwards polymerising or hardening the resin by heat treatment, but effective though this would be it may rarely be found economically possible.

DIAGRAMS.

The diagrams illustrated on pages 699 and 701 of this issue, while far from a complete survey of the problem, are intended to illustrate the main principles which may be employed in the design of equipment for mass-production at high economic efficiency.

Suitable layout arrangements based upon these types of sleeping and locker units will be found on pages 643 and 645 of *The Builder* published on November 3. The illustrations of equipment should be read in conjunction with these layout arrangements and with the following notes:

TYPES OF EQUIPMENT.

(A) SLEEPING UNITS.

BEDS.

The external dimensions for general evacuation accommodation will usually be 6 ft. 6 in. by 2 ft. 6 in.

A clear space of at least 12 in. should be allowed between the underside of the bedstead and the floor, to allow for cleaning.

Bottom and top rails are valuable although by no means essential; their function is to prevent the bedclothes from slipping off the bedstead.

Single beds may easily be supported between fittings, or by walls; in these cases the frame should be easily removable for cleaning.

BED-BUNKS.

These provide useful additional accommodation as against single beds—and some increase in privacy. Where the separating partitions are sufficiently high, and either centre-spine or centre-locker systems are used, the effect of semi-cubicles is obtained.

Beds and dividing walls may be fabricated as one unit.

Grouped beds having a separate dividing partition may also be used to obtain the effect of bed-bunks—movable beds being used.

TWO-TIER BEDS.

These provide approximately double the accommodation of single beds, only small increases in spacing being needed.

Their height should be kept as low as possible to avoid the necessity for unduly stiffening the frame.

Safety rails should be provided to the upper tier.

To obtain the necessary rigidity, supports at the foot or at both ends may be carried up to the roof of the building.

BUNKS.

These may be in two or three tiers; three tiers are usually considered a maximum.

All bed frames should, where possible, be made removable for fumigation when necessary.

Internal dimensions for general evacuation purposes 6 ft. 4 in. by 2 ft. 4 in.

A clear space of 12 in. should be allowed between the underside of the lowest bunk and the floor. This in the case of three-tier bunks may make the whole unit unduly high, and the lower tier may then be lowered. A solid surround should then be provided to prevent dust, etc., from collecting below the bed. This surround *must* be removable for cleaning.

Safety rails should be provided to all tiers above lowest level.

(B) LOCKER UNITS.

WARDROBE TYPE.

Basic dimensions (internal): 5 ft. 6 in. by 22 in. by 21 in. 22 in. dimension (shoulder width of clothes) critical.

Height may be reduced to 4 ft. 6 in. for male accommodation.

If standing above floor, a height of 9 in. permits sweeping under.

For Civil Defence purposes additional outside hanging space for equipment is valuable.

CHAIR TYPE.

Basic dimensions: 15 in. by 24 in. by 16 in. high. Height dimension only is critical (to allow the locker to be used as chair).

In most cases it is best for chair-lockers to be movable. (They must stand from the wall when used for sitting, and, unless movable, dirt collects in space between locker and wall.)

WALL TYPE.

These may be of almost any size.

A general minimum length of 24 in. is essential to take folded clothes.

Except where backless (fixed direct to wall) they should be removable.

Although ventilation should be provided in all forms of locker, damp clothes should not be allowed to be stored; a special drying-room should be arranged. Waste cooking heat may often be employed to provide the necessary heating.

Previous articles in this series were:

October 13.—"The Field of Activity."

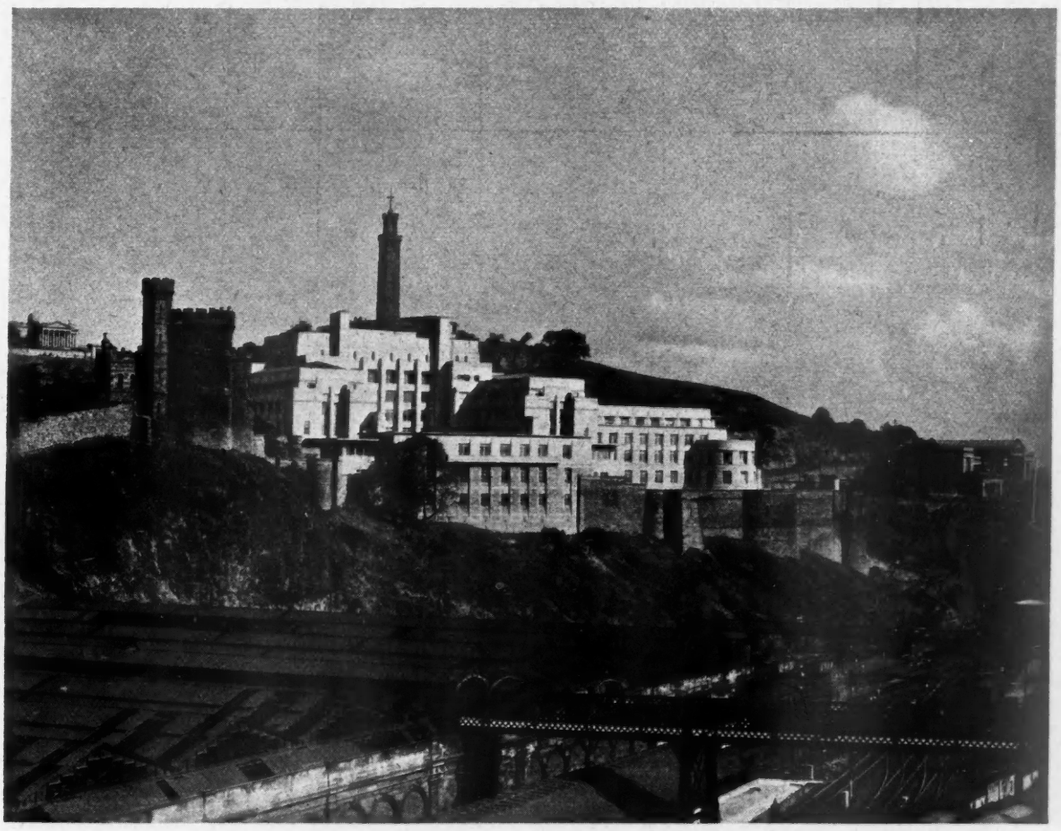
November 3.—"Billeting Accommodation—General Planning and Layout."

November 10.—"Billeting Accommodation—Structural Requirements, Design and Structural Systems."

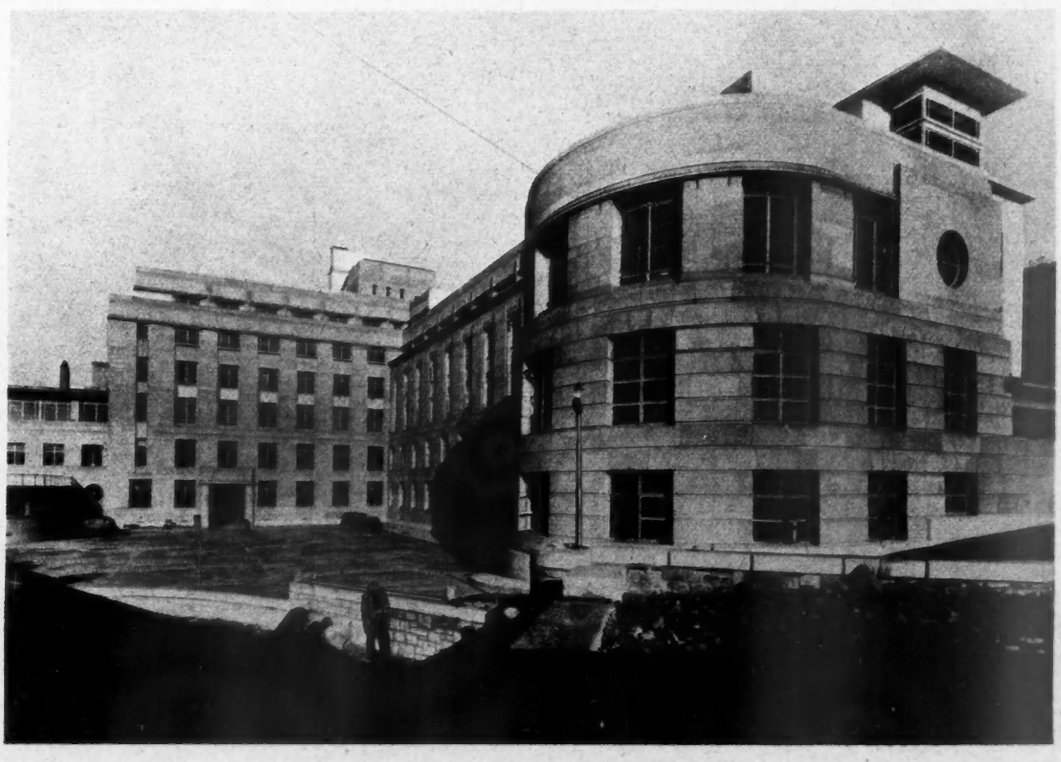
(To be continued.)

ST. ANDREW'S HOUSE, EDINBURGH

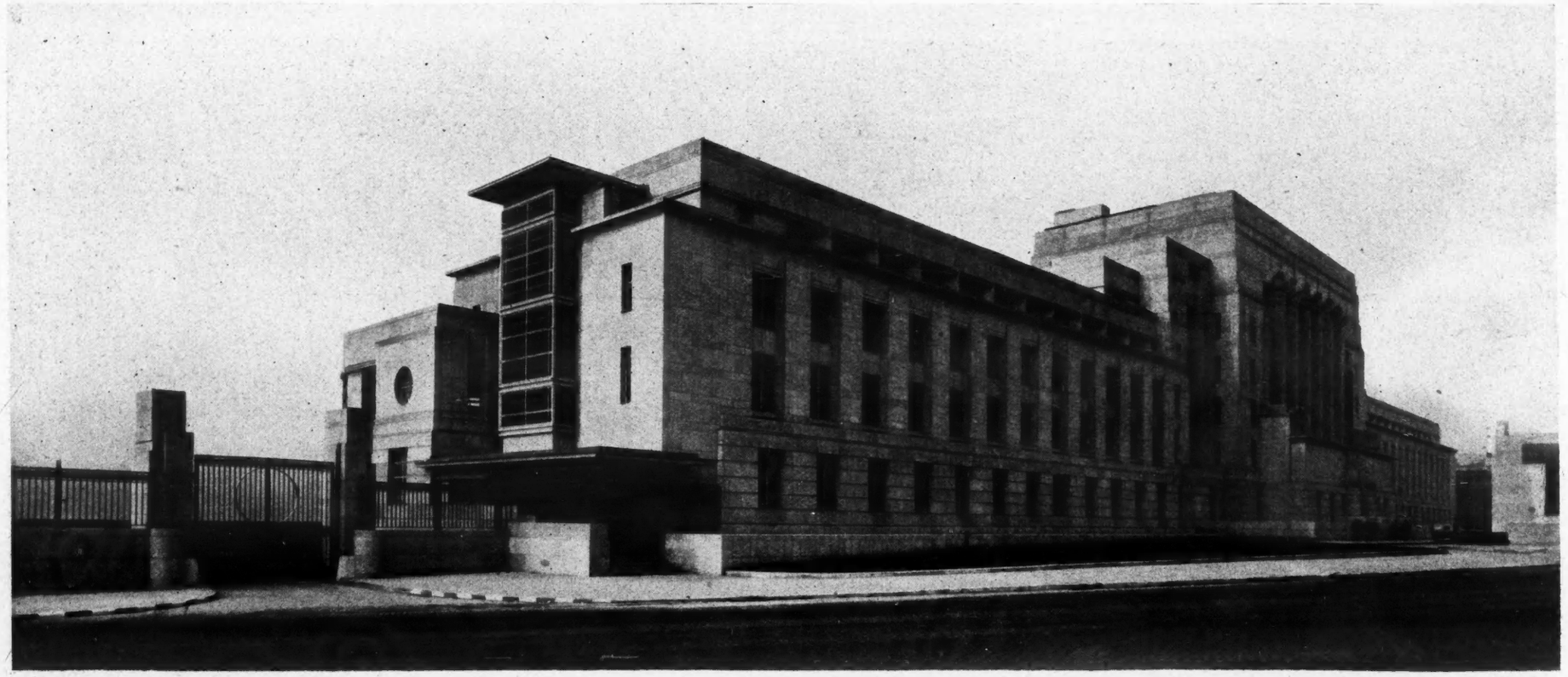
MR. T. S. TAIT, F.R.I.B.A. (SIR JOHN BURNET, TAIT & LORNE), ARCHITECT.



VIEW FROM THE SOUTH-WEST.



THE SOUTH-EAST CORNER.



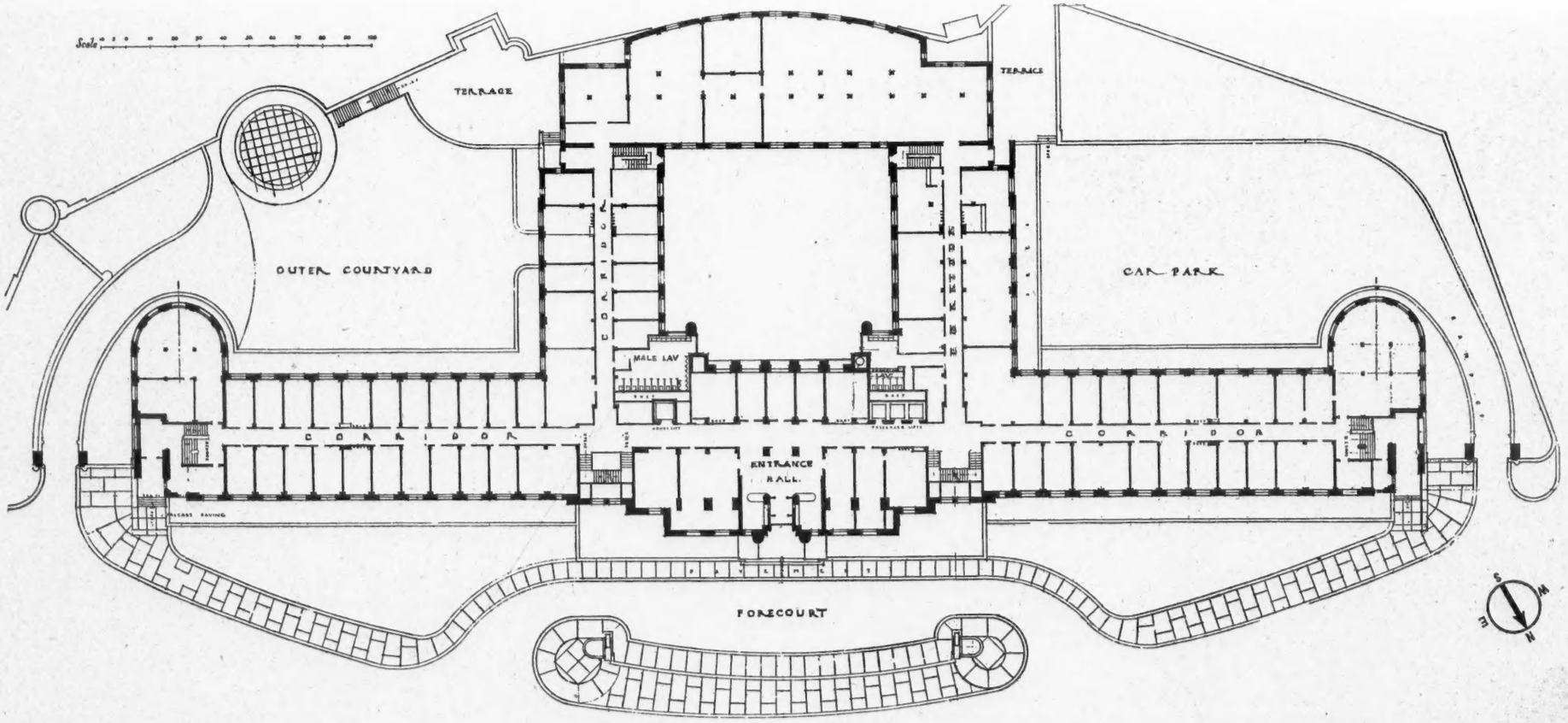
FRONT ELEVATION, FROM THE EAST.

St. Andrew's House on the Calton Hill, designed by Mr. T. S. Tait, F.R.I.B.A., of Sir John Burnet, Tait and Lorne, stands on the site of the Old Jail Buildings. It will house Government Departments.

Site.—The site is a unique one, with the existing stone walls to the south rising sheer out of the cliff side, and the Calton Mound with its varied and picturesque monuments forming an ideal background for the new building.

Problem.—The principal problem the architect had to solve was to harmonise the new with the old so that the building would appear to grow naturally out of the rock by making use of the existing boundary wall and at the same time to take full advantage of the long low-lying lines of the hillside without interfering with the outline or the monuments crowning its crest. The south boundary wall for a length of 100 ft. was cut away, and the rebuilding which forms the external wall to the south connecting wing very successfully weds the old work to the new and appears to grow out of and be part of the old.

Layout.—The north front to Regent-road is approximately 530 ft. long, and the main entrance to the building is placed centrally, well set back from the roadway, with a forecourt flanked by two stone pylons, on which are placed ornamental flagpoles 50 ft. high, the remainder of the grounds in front being laid out with grass and shrubs Provision has also been made at the base of the building for flowers. Secondary entrances are provided at both ends of the building. The gateway at the west end leads into the car-park, which is situated at approximately road level behind the west wing and has space for 45 to 50 cars. The gateway at the east end is the service entrance, and gives access



GROUND-FLOOR PLAN.

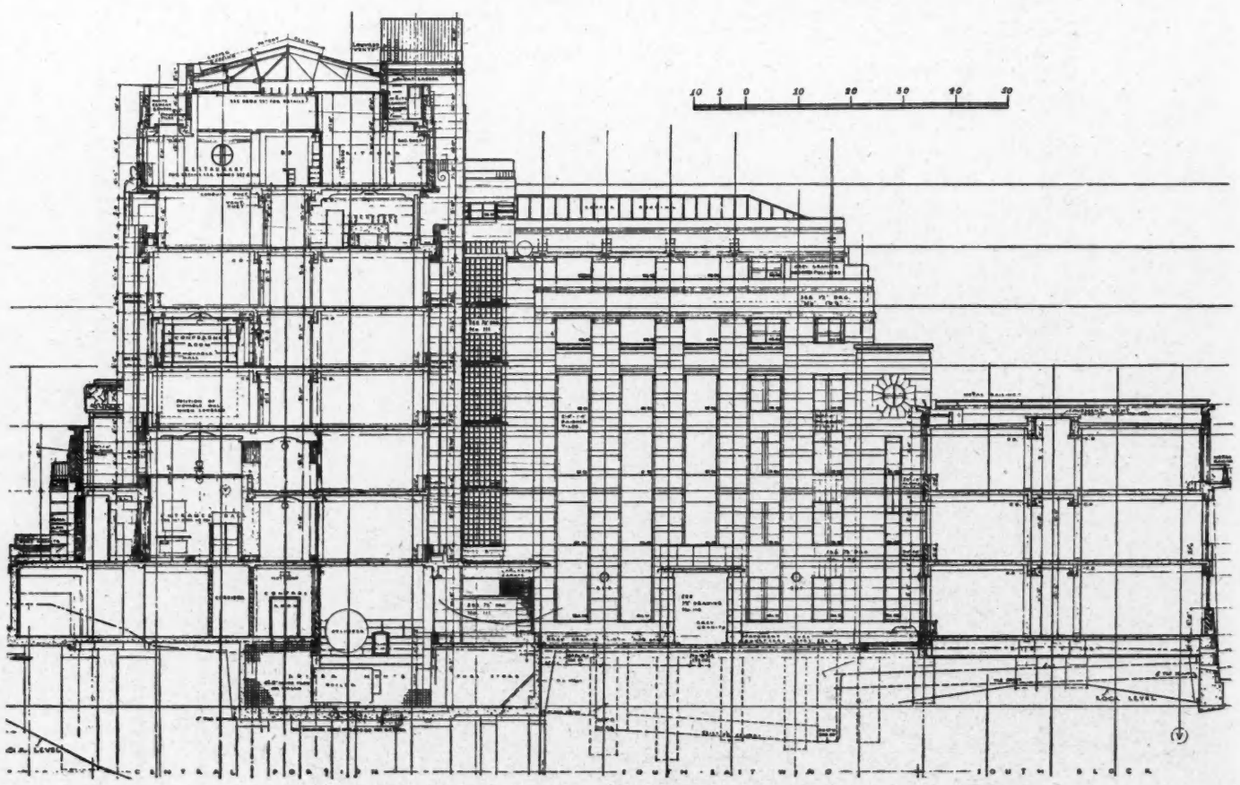
by a ramp down to a low level to the space at the rear of the east wing and thence through the south-east wing to the inner service court, where vans, lorries and tradesmen's carts have access for goods well away from the main road where unloading can be done without interfering with or obstructing road traffic.

FACINGS.—The base of the building, including the low walls along the Regent-road front and the mullions to the windows of the main staircases, are built of Creetown granite from Dumfriesshire. Black Bon-Accord granite is introduced at the secondary entrances and also on the flanking windows of the central block and on the two pylons in front. The façades are faced with selected Darney stone from Northumberland, specially polished to resist as far as possible the adherence of soot. The main entrance bronze doors, 9 ft. wide by 12 ft. high, executed by Mr. Walter Gilbert, are designed to symbolise St. Andrew's Cross, and the main theme in the design is " The Divine Call to St. Andrew, Patron Saint of Scotland, ' Follow me and ye shall be fishers of men.' "

INTERNAL.—The main doorway gives access through a vestibule into the entrance hall, which is paved with Travertine, and the walls lined with Perrycot marble, the base being Hopton Wood stone, all kept severely simple in design. On the floor is a design in glass mosaic of St. Andrew's Cross. The columns at the entrance are of Ashburton marble from Devonshire, and the metal work of the doors is in silver bronze. The main corridor leads to the lifts serving the upper floors. Three passenger lifts and one goods lift are provided. Except on the ground floor adjoining the main entrance, the floors of the corridors are in coloured Ruboleum in order to ensure a reasonable

ST. ANDREW'S HOUSE, CALTON HILL, EDINBURGH. MR. T. S. TAIT, F.R.I.B.A. (SIR JOHN BURNET, TAIT & LORNE), ARCHITECT.

THE MAIN ENTRANCE HALL.



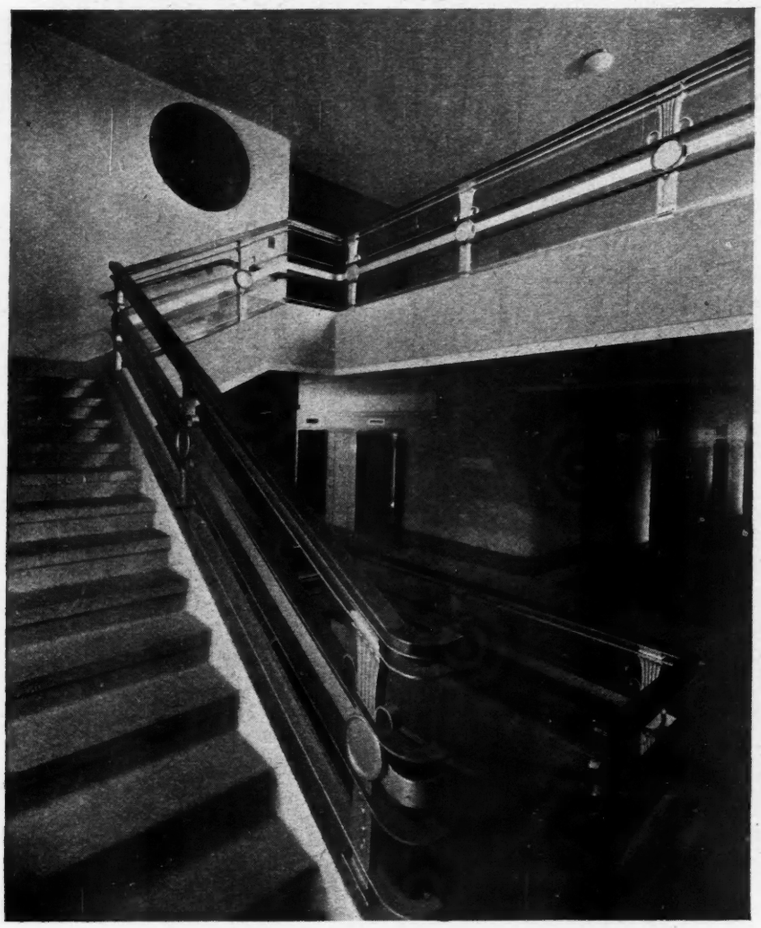
CROSS-SECTION THROUGH MAIN ENTRANCE HALL.

ST. ANDREW'S HOUSE, CALTON HILL, EDINBURGH.

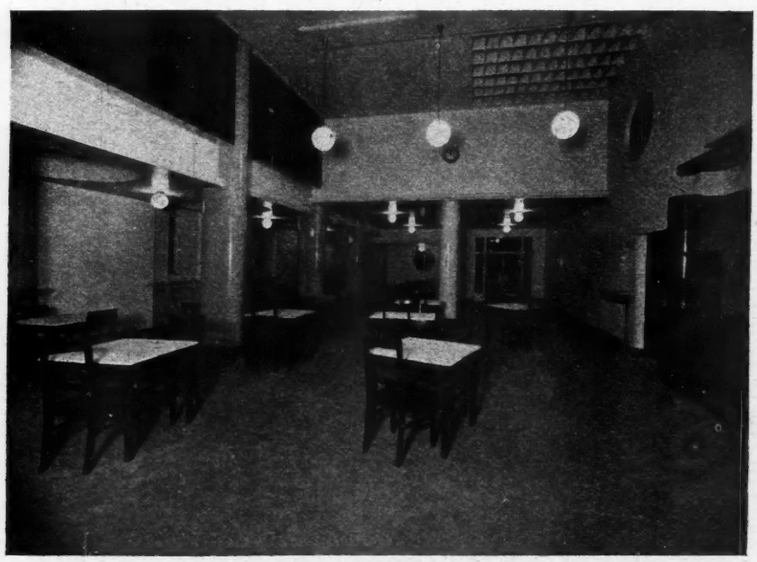
THE SECRETARY OF STATE'S ROOM.

THE CONFERENCE ROOMS.

MR. T. S. TAIT, F.R.I.B.A. (SIR JOHN BURNET, TAIT & LORNE), ARCHITECT.



A STAIRCASE.



THE RESTAURANT.

ST. ANDREW'S HOUSE, CALTON HILL, EDINBURGH.

MR. T. S. TAIT, F.R.I.B.A., ARCHITECT.

measure of silence. The doors generally are flush type or glazed with obscured glass where required for lighting.

ACCOMMODATION.—The building provides approximately 140,000 super feet of office space, and is so planned that rearrangements can easily be made to suit administrative convenience.

The lower ground floor houses the boiler room and control room, centrally placed. The ground, first and second floors are divided almost equally between the Department of Health and the Department of Agriculture. The second floor gives access to the flat roof over the low south block which is paved with buff tiles. The third floor contains offices of the Scottish Education Department and the Scottish Home Department. The conference rooms are placed on this floor in a position central for all departments. The suite consists of five rooms and a waiting room, with specially designed sliding partitions, which drop through the floor in order to provide larger rooms as required. These rooms are panelled from floor to ceiling in Indian silver greywood with Indian laurel bands. The fireplaces are of polished Hopton Wood stone.

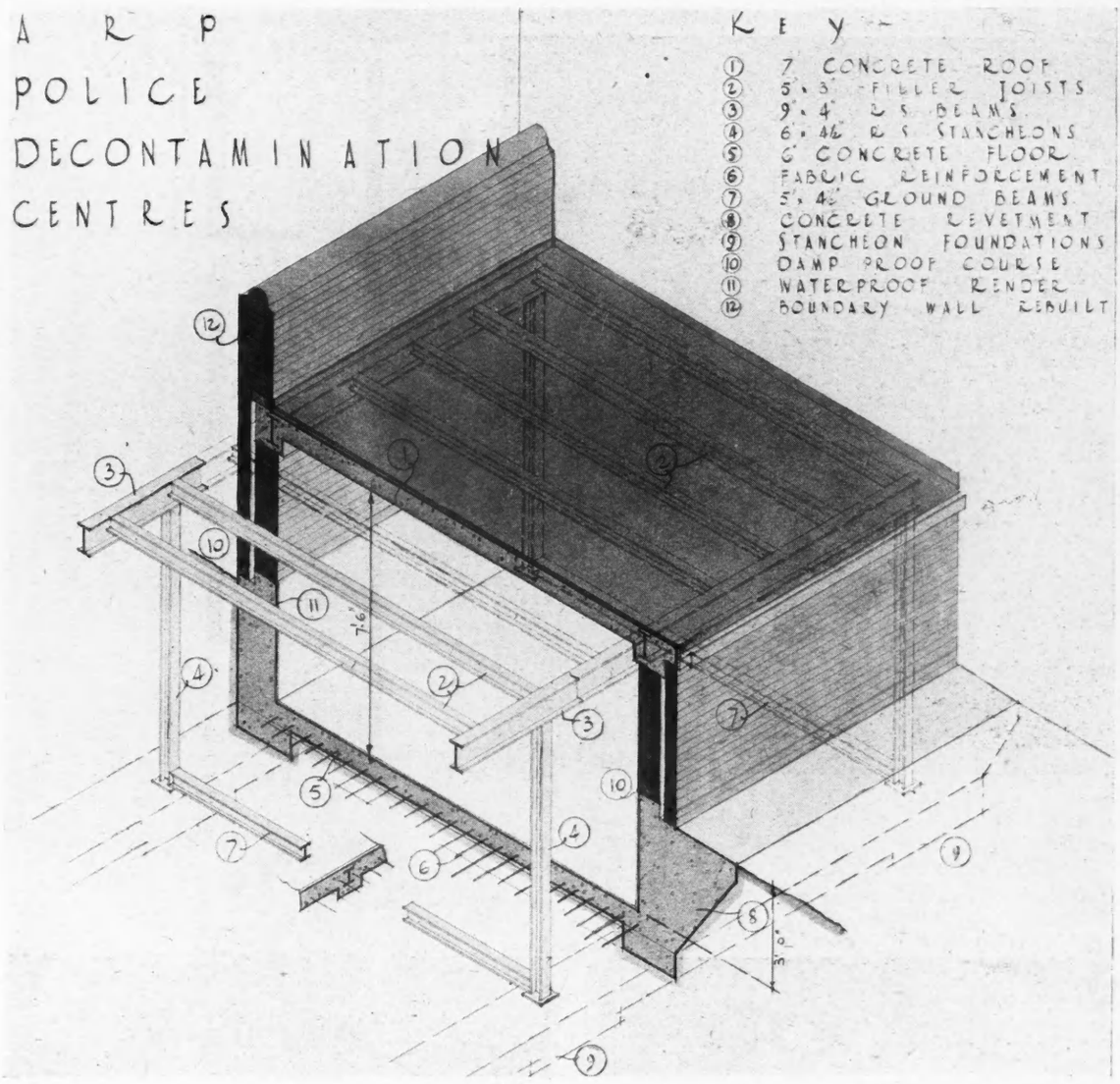
The fourth floor contains the offices of the Scottish Home Department. The fifth floor is wholly occupied by the Scottish Home Department. A suite of rooms on the south side of the corridor is occupied by the Secretary of State for Scotland. The Secretary of State's room is panelled in Scottish walnut. The particular tree from which this wood was obtained was planted by Mary Queen of Scots at Balmerino Abbey, near Dundee, approximately three hundred and fifty years ago. It was blown down in a bad storm. The sixth floor contains the restaurant and main kitchen for the staff. It provides seating accommodation for 190 people at one sitting, and includes a small snack bar. The decoration is carried out in bright colours. The building will be occupied by approximately 1,250 people.

CONSTRUCTION.—The structure is built on mass concrete piers which are taken down to the solid rock. The structure above the foundations is carried on a steel framework with retaining walls of reinforced concrete at low level. The walling generally is of panel wall construction and faced with Darney stone. Floors are of reinforced concrete and hollow tile construction. The flat roofs are constructed of reinforced concrete, and are insulated with cork and "Foamagg." The partitions generally are of brick, hollow tile and glazed screens as required.

The windows are metal casement type throughout, with solid metal window breasts, those at the fourth-floor level of the central block being decorated with the Scottish Crown and gilded. Internally, the sills to the windows are in metal.

The system of heating is by means of low-pressure hot-water with flush radiators. Artificial ventilation is used for the lavatories, the kitchen and the conference rooms. Otherwise the building is naturally ventilated. All services, plumbing, etc., are contained in ducts, and all piping concealed as far as is practicable.

The clerk of works for the job was Mr. R. H. Fernie; and the general contractors Messrs. Jackson, Brown and Co., of Giffnock and Edinburgh. A list of specialists and suppliers is on page 715.



AN ISOMETRIC SECTION.

A.R.P. POLICE DECONTAMINATION CENTRES, WEST SUSSEX.

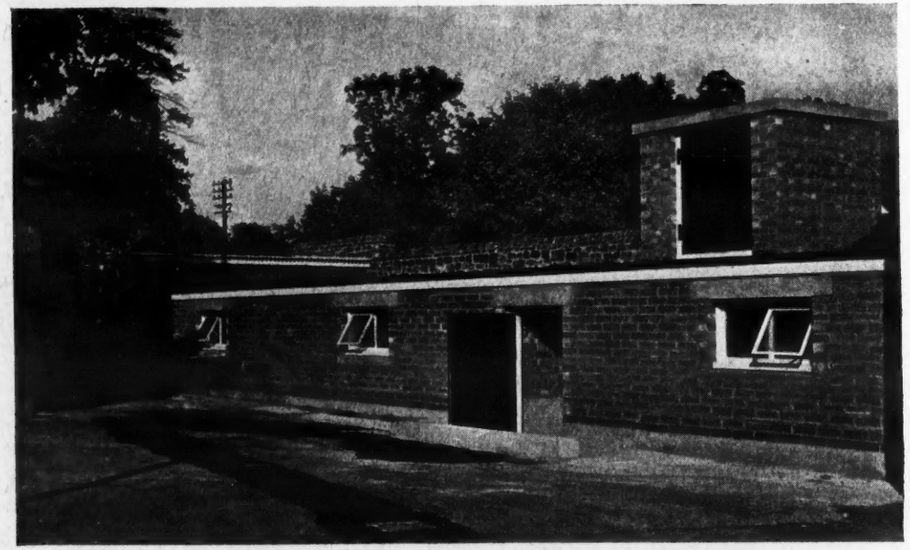
MR. C. G. STILLMAN, F.R.I.B.A., COUNTY ARCHITECT.

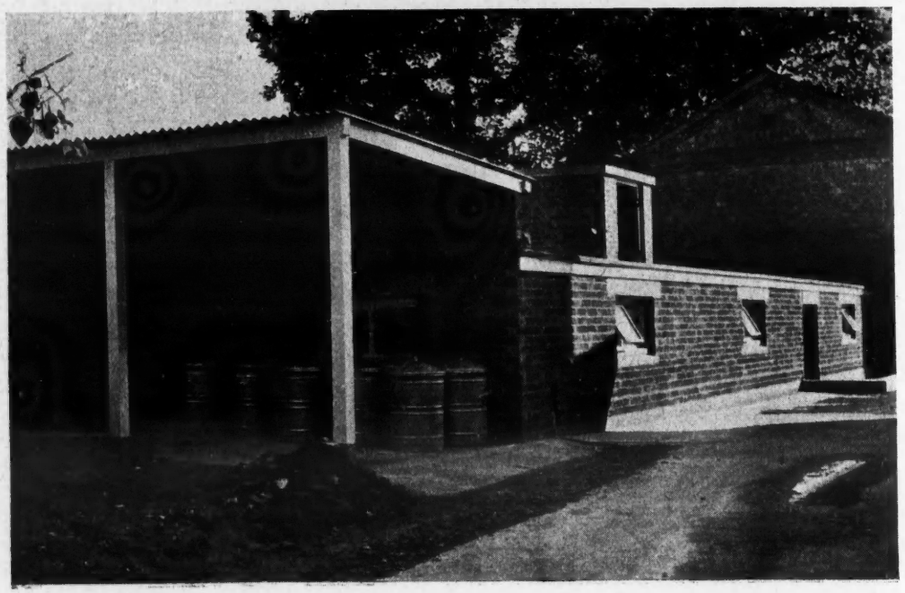
GENERAL.—A number of A.R.P. police decontamination centres have been erected in the West Sussex area, to plans by Mr. C. G. Stillman, F.R.I.B.A., County Architect. These centres come under the Home Office scheme for providing police with cleansing accommodation, and also, where necessary, a protective office for use in war time. They have been provided to police stations which are old, obsolete in pattern, and deficient in accommodation for present-day needs, particularly as regards storage room. Such buildings are almost impossible to strengthen against the effects of aerial attack, and it was considered more economical to construct these small units in the grounds of the premises in the way shown in the photographs on the next page. Whilst providing for war-time purposes, they serve also to give the much-needed accommodation required, and can easily be converted for office and general police purposes.

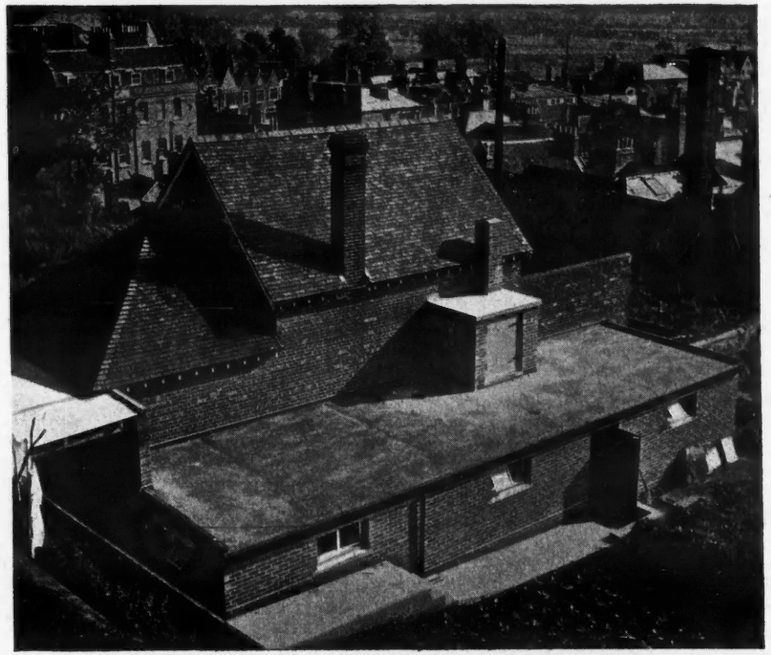
CONSTRUCTION.—As a contribution to their war-time purpose, the units have been constructed with a steel frame, as shown by the isometric section, and are partially sunk in the ground to add strength and protection from blast and splinters. The reinforced concrete flat roof is designed to withstand débris load from the collapse of adjacent buildings, and the windows and doors are made gasproof. Additional protection can be made by sandbagging the external walls above ground level which are of a convenient height for this purpose.

By placing these buildings against boundary walls in corners of the somewhat restricted gardens or yards of the police stations, no valuable space has been taken up, but rather, by dint of careful planning, unused ground has been put to good use, thus giving these small police stations accommodation which will represent a considerable asset. The protective office included in this unit, and also the decontamination rooms, provide for a high degree of protection for the police personnel, which cannot be given to the old existing buildings, particularly with regard to the danger of fire. The hot-water boiler for supplying the shower is placed in the corner of the office, and provides the heat for this room.

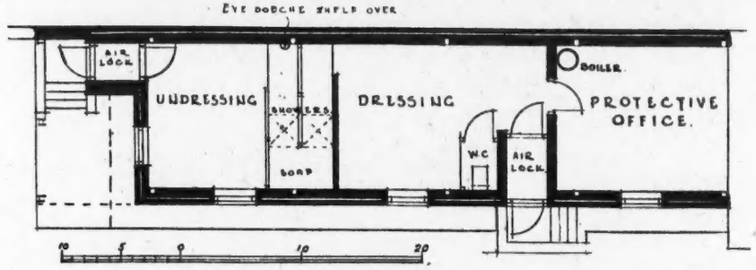
The following contractors executed contracts for the Police Decontamination units: W. T. Woolford, East-street, Petworth; F. W. Hill (Bognor Regis), Ltd., Spencer-street, Bognor Regis; Hoad and Taylor, Ltd., Market-square, Horsham; and Middleton Builders (B.P.M.P.), Ltd., Middleton-on-Sea. The specialists engaged on the works were: Steelwork, Matthew T. Shaw and Co., Ltd., West Ferry-road, Millwall, E.14; gas-proof doors, Joseph Sandell and Co., Ltd., Waterloo-road, S.E.1; and equipment racks, James Gibbon, Ltd., Fisher-street, Southampton-row, W.C.1.







Above and on Left: EXAMPLES OF POLICE DECONTAMINATION CENTRES.



A TYPICAL PLAN.

A.R.P. POLICE DECONTAMINATION CENTRES, WEST SUSSEX.

MR. C. G. STILLMAN, F.R.I.B.A., COUNTY ARCHITECT

OBITUARY

Maurice E. Webb, D.S.O., M.C., F.R.I.B.A.

We regret to record the death, on Thursday, November 9, of Mr. Maurice Everett Webb, at his residence at Ladbroke-terrace, W.

Born in 1880, Webb was the eldest son of the late Sir Aston Webb, P.R.A. Educated at Marlborough and at Pembroke College, Cambridge, he served his articles with his father, with whom he later joined in partnership. After his father's death in 1930, he continued the practice under the title of Sir Aston Webb and Son, and carried out a great deal of work. Even before the Great War (in which he served with distinction in the Royal Engineers, being awarded the D.S.O. and M.C.), Webb was something of a personality in the architectural world. At the outbreak of war he was President of the Architectural Association and continued in that office when he came out of the Army in 1919.

Notwithstanding the overshadowing eminence of his father, Webb soon made himself a considerable power in the family practice and in architectural affairs generally. His influence on the character of the work emanating from the office in Queen Anne's-gate became more and more apparent. His real architectural sympathies were shown clearly in his pre-war design for the Sir Henry Campbell Bannerman Memorial in Westminster Abbey, a small work with a much closer approximation to the classical manner than anything produced by his father.

As time went on the work of the firm showed less and less of the "François Premier" manner, and there could be no doubt that the younger man was the dominating influence in the practice. This is well shown in such works as the Russell School, Ballards, Addington, Surrey (1926), and the reconstruction of the Army and Navy Stores, Victoria-street (1928)—the latter a design with a fine scale, but still, unfortunately, only partly carried out. Another building of distinction erected about this time was Artillery House, Westminster, an office block showing perhaps something of a return to the Aston Webb manner, but having an uncommon effectiveness and originality of treatment.

After the death of Sir Aston, Maurice Webb came fully into his own and carried out a number of varied and distinctive works, among which should be specially mentioned the new premises of the Commercial Union Assurance Co., Cornhill, one of the first buildings to make architectural provision for floodlighting. A later building of note was the Kingston Guildhall, remarkable for its boldness of treatment, and, incidentally, for the fact that here Webb contrived to dispense with the steel frame, carrying all his loads on his brick walls. Nearby, in the same town, he carried out perhaps his largest work, Bentall's store, a building that frankly admitted its debt to Hampton Court Palace.

Throughout the whole of his working life Webb took a keen interest in professional affairs, and did much good work for the Architectural Association and the R.I.B.A. Elected a Fellow in 1919, he served on the R.I.B.A. Council in 1919-22, 1923-24, 1929-39, and was a Vice-President in 1927-29 and 1933-35. He was at different times U.K. representative on the Council for three Overseas Allied Societies, and did valuable work on the Board of Architectural Education for many years. He served at various times on no fewer than twenty-two R.I.B.A. Committees, as well as being an Institute representative on B.I.N.C. He rendered valuable service also to the Architects' Benevolent Society, and was one of the founders of the Building Centre. He was keenly concerned for the welfare of the personnel of the profession, and it was one of his greatest regrets that he could not induce the Institute to introduce a scheme of Unemployment Insurance for architects.

In physique, Webb was as robust as his architecture, and his death at the comparatively early age of fifty-nine, when he appeared to have many years of active life before him, comes as a great and unexpected shock. He was a man of strong personality, and expressed his views forcibly and fearlessly. Nevertheless, he was essentially a humane man, and was at his best in the congenial atmosphere of the Arts Club. Also he did much good by stealth.

A small sidelight on his character is thrown by an ex-colleague, who reminds us that when, in a *Builder* report of a speech which he made just after the war, his name was printed as Major Maurice Webb, D.S.O., M.C., he telephoned to say that he had left the Army and wished to be referred to as plain Mr. Maurice Webb. That was characteristic.

Webb's robust, forthright, outspoken personality will be sadly missed, and his loss is one that will be particularly felt at the R.I.B.A., to which he gave unremitting service for so many years.

A memorial service was held at St. Bartholomew the Great on Tuesday.

Post-war works executed by the firm of Sir Aston Webb and Son include additions to Greenwich Mills; house at Noordwk, Holland; War Memorial and hall, Leys School, Cambridge; buildings, Whiteley Village, Burhill; Dover Patrol Memorial; Bank of Chile, Santiago; Memorial, London Troops, Royal Exchange; Textile Trades War Memorial; Evelyn Nursing Home, Cambridge; Royal Air Force Club, Piccadilly; Stock Exchange War Memorial; rebuilding of 36-44, Moorgate; Kensington, Fulham and Chelsea General Hospital; Birmingham University extension; The Russell School, Ballards, Addington, Surrey; Wesley Hostel, Cambridge; Army and Navy Stores, Victoria-street; Artillery House, Westminster; Howell's School, Denbigh, N. Wales; head office of Ocean Accident and Guarantee Corporation, Ltd.; new premises of the Commercial Union Assurance Co., Cornhill; Sebright's School, Wolverley, near Kidderminster; Abbey Flats, Abbey-road, St. John's Wood, N.W.; Government House, Nicosia, Cyprus; Bentall's New Store, Kingston-on-Thames; New Guildhall, Kingston-on-Thames; Depository Building, Kingston-on-Thames; "Gas Industry House," 1, Grosvenor-place; new flats, "The Grampians," Shepherd's Bush (in conjunction with Collcutt and Hamp); new sanatorium, Howell's School, Denbigh, Wales (in conjunction with Col. G. Griffiths); Crematorium, Honor Oak.

James Scott, A.R.I.B.A.

Mr. James Scott, A.R.I.B.A., has died in Singapore at the age of forty-two years. Mr. Scott, who received his training as an architect with Messrs. J. and W. Wittet, of Elgin, was educated at Forres Academy and Robert Gordon's College, Aberdeen. After completing his training he was for some time estate architect to Lord Cowdray at Dunecht. Fourteen years ago he received an appointment as architect to the municipality at Singapore, and carried out important schemes in the town and district.

CORRESPONDENCE

Hydraulic Lime—Sandbag Protection.

TO THE EDITOR OF *The Builder*.

SIR,—With regard to Mr. Bennett's article in the issue of *The Builder* of October 27, while we agree with Mr. Bennett that most of the sandbag protection is poorly done, even if the work is perfectly carried out as regards workmanship, the protection will not be lasting. Brick walls are not ideal by any means for protection against blast and splinters, as the risk of ricochets is increased and the number of splinters quite likely will be more than double, and brick splinters are probably as damaging as metal.

The protection afforded by sandbags is good, the erection is speedy, but the greatest objection to this form of protection is the liability of decay. There is no satisfactory method of preventing decay and the consequent collapse of sandbag protection, as the suggested germicides, cement washes, etc., will only protect the outside surface of the revetment, while the rot and decay starts in the inside, between the bags.

If the bags are treated with rotproofing chemicals before filling with sand, there is still the certainty that the lower bags will burst as the weight settles, the seams (and seams cannot all be inside) being so very weak. Drying the sand before filling the bags and then covering the work in timber or felt would probably lengthen the life of the protection, but would be uneconomic and extremely difficult without the proper plant.

I would suggest that the bags be filled with a mixture of hydraulic lime, free from expansion, and sand, the proportion being somewhere about 7 or 8 to 1, or even leaner. This mixture, when placed in position and wetted, would set, and the whole would then be reasonably stable and permanent, and when the bag did burst there would be no collapse, as the hard contents of each bag would be fully capable of supporting its share of the weight. Though the contents of the bag would be hard, the hardness would not be so great as to increase the risk of ricochets, and there would be a minimum of splinters, as the hard contents of the bag would tend to pulverise rather than splinter. The cost would be trifling in view of the permanency of the protection—about ¾d. extra per bag at the most—and the cost of germicidal treatment, which is only a palliative, is somewhere in the neighbourhood of ½d. per bag.

It is essential that the lime used for this purpose should be hydraulic and eminently so and also free from expansion, as otherwise the cost increases owing to the preliminary treatment of the lime, but reliable hydraulic limes, free from expansion, are obtainable, and are not controlled, and can be delivered within a few hours of placing the order.

It might be asked why cement in the proportions of, say, 15 to 1, should not be used for this purpose, and to this the answer would be that cement, when set, is extremely brittle, whereas hydraulic lime is tough, as many builders know who have had to remove lime foundations. A pick can be driven into the concrete but with little effect.

ALLDER O. VINCENT.

54, Owlstone-road,
Cambridge.

A.A.S.T.A. LECTURES ON A.R.P.

BLAST-PROOF SHELTERS: "THE CODE."

A FURTHER lecture in this series, arranged by the A.A.S.T.A., was given in the Kingsway Hall by Mr. F. J. Samuely on October 19. It dealt with the Government proposals, as embodied in the Code, from a purely technical point of view, and did not touch on the question of whether or not the Government's policy is correct.

Air-raid shelters, said the lecturer, might be divided into three classes :—

(1) Obligatory shelters, usually for employees, to which the Code was applicable;
(2) Shelters which were obligatory under certain conditions, such as in flats, for which no strict standard was laid down, but to which it was considered that the Code was applicable in general;
(3) Recommended shelters, such as those for the public and for domestic buildings, for which again no standard was laid down, but for which the Code should be a guide.

Public shelters should be designed to a rather higher standard than private ones, and gas-proofing, in particular, should never be omitted.

The provisions of the Code were intended to afford protection against blast and splinter effects of a 500-lb. bomb bursting at a distance of 50 ft., and they allowed a considerable margin of safety. In shelter design, any extra strength which might be provided —as, for instance, by making one wall stronger than the other three—was not wasted as it would be in normal building. In such a case there was a one-in-four chance that if a bomb burst near to the shelter it would be on the side of the stronger wall, and its additional strength would then be utilised. Lateral protection must be to a higher standard than overhead protection because splinters had a higher velocity while travelling horizontally or upward than when they were falling.

Provision for débris load, which might be greater outside a building than inside it, must be made, in addition to the normal overhead protection. A covering of earth, the thickness of which should not be less than one-twentieth of the height of the building, was a useful means of absorbing the shock of falling masonry. Allowances to be made for débris varied widely in different countries, the Swiss regulations being about 600 per cent. higher than ours, but taking into account the normal factors of safety which were used in design, it was likely that the provisions of the Code were safe.

Requirements of floor area, surface area and volume were fully dealt with, and the lecturer laid stress on the need to ensure that natural ventilation, if no other were provided, was really adequate, pointing out that in many recently erected shelters more people might be killed by heat stroke than by bombing. A supply of water was always desirable, and in first-aid and decontamination centres hot water was essential. If a shelter floor was below sewer level, chemical closets could be installed or soil water taken to tanks; but if there was accommodation for more than 500 persons it would probably be worth while to provide a sewage pump.

Adequate thresholds should be provided where there was a possibility of flooding, and the lecturer considered that the likelihood of tripping over such obstacles was exaggerated. In general, baffle walls were preferable to blast-proof doors, some of which were considerably below standard. If conditions permitted, shelters below ground were always preferable to the surface type, owing to the greater lateral protection provided. Small surface shelters of the domestic type could be economically arranged to serve four houses; the brickwork usually used for division walls could profitably be added to the outer walls, the shelter being subdivided by 2-in. partition blocks.

Questions were then invited by the lecturer, and discussion centred upon division walls in large shelters, in connection with which the lecturer stressed the need for proper fixing at top and bottom, and made suggestions as to means of obtaining this in difficult cases. Throughout the lecture there was insistence on the need for maintaining and even raising the standards laid down in the Code, with the most careful supervision of all materials and workmanship.

THE EFFECTS OF INCENDIARY BOMBS.

A DISCUSSION led by Mr. F. J. Samuely took the place of a talk which was to have been given by Mr. B. Lubetkin in the series of lectures. Mr. Lubetkin, who had been obliged to postpone his lecture through illness, dealt with his subject—"The Principles of Design for Air Raid Shelters"—on November 2.

MR. SAMUELY decided that the time at his disposal could be spent most usefully by answering questions. Before inviting questions and general discussion, however, he remarked that he would like to take the opportunity to make a number of comments on one aspect of air raid precautions which in his opinion does not receive the attention it should—namely, protection against the effects of incendiary bombs. More attention, he said, should be paid to A.R.P. Handbook No. 9, one of the most valuable handbooks issued by the Home Office. With incendiary bombs the axiom "the heavier the bomb, the more dangerous the consequence" no longer held good. As long as a fire broke out, the size of the bomb causing it was of no importance. "Bombing planes," declared the speaker, "may carry between 1,000 and 2,000 bombs. If these are released and fall at random, on a town, some will fall in the streets and gardens and some on houses. As an average urban area is 80 per cent. to 85 per cent. open space, about one-sixth would probably hit houses, and of these one half would probably cause fires. A single bombing plane might therefore be able to cause between 100 and 200 fires in one raid." Such a raid would tax the resources of the fire services very severely, while the psychological effects on the civil population could not be ignored. Indeed, if there is any truth in Hitler's threat of a terrifying "secret weapon," the lecturer maintained that this weapon would be a new type of light incendiary bomb.

The penetrative power of an incendiary bomb, Mr. Samuely continued, was not very great; 4-in. concrete or the equivalent of a ¼-in. steel plate was sufficient to withstand penetration and fire. A 4-in. self-supporting concrete slab above the attic beams and rafters afforded effective protection for any house, a less expensive but also less protective form of protection being a 1-in. layer of concrete on steel decking or on some other fire-resisting material. There was danger, he said, of the burning roof timbers bringing down 9-in. to 11-in. brick walls, and he recommended the tying of external walls with anchors at eaves level. Questions were then asked.

Q : Does a hollow-tile floor give protection against incendiary bombs?—A : The efficiency of this type of floor depends on the thickness of the top concrete. The Code considers a thickness of 8 in. is sufficient. As very few types of hollow-tile floor have a top layer of concrete of such a thickness, sandbags or a 2-in. layer of concrete should be laid on top to give the necessary additional protection.

Q. : What is the protective value of a layer of asphalt on a roof?—A. : Asphalt gives good protection against incendiary bombs. It does not crack or bend under the terrific heat they generate, but it gives no protection against penetration.

Q : Can it be assumed that an incendiary bomb falling at an angle would not penetrate a slate roof?—A : Incendiary bombs do not drop at an angle unless the bombing plane is flying very low. The air resistance of an incendiary bomb is high as compared with a heavy high explosive bomb. It falls at about 300 ft. per second, and dropped from a height of 500 ft. would hit the ground practically vertically.

Q : Does steel sheeting give as good protection as a layer of concrete?—A : Yes, a ¼-in. steel sheet would give as good protection, but a layer of concrete is cheaper.

Q : How extensive were the protective measures taken against incendiary bombs in Spain?—A : The danger from incendiary bombs were not, in general, so great in Spain as they would probably be in this country. The houses there were built with solid floors and were multi-storied. In England the typical house had timber roofs and floors and rarely had more than two storeys. The density of population in a built-up area in England was lower than was the case in Spain, and consequently a high explosive bomb would be less effective in England, while an incendiary bomb would be more effective than in Spain.

A.R.P. SURVEYS AND PUBLIC SHELTERS.

THE fifth lecture in the series was given on October 30 by Mr. R. T. F. Skinner, A.R.I.B.A.

MR. SKINNER explained that his experience had been mainly confined to the preparation of surveys and the designing of public shelters for the Borough of Finsbury. The work of architects and engineers must at present, he continued, be largely confined to Home Office Standards, but if intensive air raids developed, new standards would certainly have to be adopted. The main objects to be achieved by air raid precautions were to save civilian life, to preserve civilian morale, and to prevent the disorganisation of industry. Architects were more generally concerned with the protection of the civilian population and the designing of appropriate types of shelters. The problem of the maintenance of industry was a large and difficult one, generally outside the province of architects. It had been very largely neglected in this country. In Germany new heavy industries were located outside or on the outskirts of cities, with workers' settlements attached, and no large new factories were being allowed in the centres of the towns.

PRINCIPLES OF DESIGN.

THE sixth of the series of A.A.S.T.A. lectures was delivered on November 2 by Mr. B. Lubetkin.

After comparing the Government's policy of strutted basements and steel shelters with a "long-term" policy of bomb-proof shelters, the lecturer proceeded to show that it would be fallacious to provide the same protection everywhere, as the degree of likelihood of enemy bombardment in different parts of the country varies, and one zone is more dangerous than another. "A rational A.R.P. policy," he said, "would be to divide the whole country into zones of greater and lesser danger and to fix a danger co-efficient for the shelters to be provided in each zone. It would then be up to the technician on the spot, taking into consideration available resources, population, etc., to design such shelters as he may think fit, provided that it can be proved that the danger co-efficient is not above the one fixed.

"This policy still can be done. In fact, our very recent experience in Finsbury seems to prove it. We had designed shelters in Finsbury on the outbreak of war; we felt that in actual war experience the present 'blast-and-splinter-proof' policy would be altered and, as in Spain, a bomb-proof policy would be needed. Therefore, we are endeavouring to build such shelters that can be converted into bomb-proof shelters, and I think that if in 14 days after war was declared we were able to start 30 of these shelters, which are by now practically completed, it seems to us that if the Government with all its industrial resources, which are now concentrated on Anderson shelters, strutted basements, etc., had prepared standard reinforcements, shuttering of standard sizes, etc., which could be taken from place to place, there could have been time to erect structures of immense value to save innumerable lives."

EMERGENCY INQUIRY BUREAU

Questions from readers arising out of War-time difficulties and recent Emergency legislation will be answered by a special staff of contributors. Questions, which should be addressed to the Editor, should be accompanied by a stamped and addressed envelope.

Surcharge on Bill for Timber.

SIR,—*We were interested in the answer to a query on surcharge in respect of timber in your issue for November 3.*

In the case of an order for timber of the value of £15, we agree that there should be no extra charge of 20 per cent., even if the order is for different sizes, etc.

We mentioned this to a timber merchant, who said he was quite in order in charging the 20 per cent., as an order for £15 worth of materials must be for timber in one particular size. We asked him whether he considered it quite fair to the contractor to have to pay this surcharge, and he readily agreed it was not. He added that such action is governed by a ruling of the Timber Control Department, and that he is not allowed to do otherwise. He further stated that orders under £15 were of much bigger interest to him, and remarked that it seemed that the Goverment was encouraging profiteering.

C. B.

Our legal correspondent writes as follows:—

"The answer referred to in *The Builder* of November 3 stated that, in the circumstances described in that instance, the legality of the surcharge should be tested. So much depends on the true construction to be put upon the data given in the order controlling timber in explanation of the maximum prices to be charged. Our view is that the statement that 'the maximum prices for sales of less than £15 in value of any one size and quality in one delivery are the prices stated herein (the Order) increased by 20 per cent.' was never intended to apply to a sale of more than £15 in value of different sizes and quality in one or more deliveries to suit the timber merchant and buyer as the case may be. There is, presumably, far more cost to the timber merchant in a transaction for under £15, hence the 20 per cent. increase by way of reimbursement for the extra work involved. But to say that it should apply to, say, an order of £500 value when no particular one size of timber included in the order is of the value of £15 was never intended. If it were so, it certainly would suggest that the Government was encouraging profiteering."

Loans for Air Raid Shelters.

SIR,—*How do owners of dwelling-houses obtain loans from local authorities for air raid shelters of a permanent character?*

R. H.

By Section 29 of the Civil Defence Act, 1939, a local authority may advance money to the owner, or lessee with an unexpired lease of more than three years, of premises comprising a dwelling-house, to enable the owner or lessee to provide therein a permanent air raid shelter. The same section includes provisions for the terms on which the loan is made, and for its repayment. But the section does not apply in the case where materials for a shelter have been provided free by the Crown.

Withdrawal of "Designation" of Premises.

SIR,—*Before the outbreak of war, the local council designated a basement under a building in my ownership as a public shelter, and subdivided it into two compartments by a brick wall. The Council has now notified me that it proposes to withdraw such "designation" as from January 1 next and has included a statement that it does not intend to restore. Can such restoration be compelled?*

SOUTH LONDON.

No. The authority is not compelled to make good, but the occupier may do so; the latter is entitled to recover compensation for any damage he has sustained by the execution of a work of restoration. Also, if then the premises, building or land are less in value than they would have been without the execution of the works, the authority must pay compensation for the difference.

Shaded Lights for Emergency Work.

In reply to a question on this subject in our last issue, a correspondent writes:

The most suitable lighting appliance for your correspondent's purpose is a type of lantern which can easily be provided with cardboard or sheet metal shades. This lantern gives a light of 300 candle power at the cost of 1d. for six hours. It burns paraffin, and the lantern has an oil capacity of 1½ pints which gives approximately 10 burning hours. Alternatively, there is a type of adaptable acetylene lamp which can easily be equipped with shades in order to meet requirements.

[The names and addresses of the firms supplying these lamps have been forwarded.—ED.]

HOUSING ESTATES

KEEPING OF PIGS AND POULTRY.

MR. WALTER ELLIOT, Minister of Health, in a circular to housing authorities, urges that in view of the importance at the present time of increasing the food supplies of the country, they should consider how far they can reasonably remove or relax any existing restrictions on the keeping of poultry and pigs by tenants on their housing estates.

While recognising that the decision rests entirely with the local authorities, the Minister expresses the opinion that there are few places where poultry keeping might not be permitted without detriment to health and amenities, provided that proper safeguards are imposed. These safeguards should include the use only of types of hen-cote approved by the local authority; control over the siting; restriction, according to the space available, of the number of birds kept by individual tenants; and a ban on the keeping of male birds of such an age as to be capable of creating a nuisance to neighbours by crowing.

As regards the keeping of pigs by householders, any local by-laws are normally in a form which, subject to cleanliness, does not limit the distance from a dwelling within which pigs may be kept, though certain specific requirements are laid down in the interests of health and to obviate nuisance. Some local authorities, however, impose more onerous conditions on the keeping of pigs by tenants of their houses or even prohibit it entirely. The Minister hopes that these authorities will in present circumstances be ready to modify or remove any such restriction as far as is reasonably practicable.

INSTITUTION OF CIVIL ENGINEERS

THE PRESIDENTIAL ADDRESS.

IN his presidential address to this Institution on November 7, SIR CLEMENT HINDLEY, K.C.I.E., M.A., said that he believed the Institution's most important functions to be, firstly, the maintenance of high standards, educational and practical, for the admission of new members; secondly, the encouragement of members to contribute their experience and knowledge to the common stock of the profession; and thirdly, the prosecution of research and investigation.

In regard to the first, the Institution would maintain the continuity of its examinations, the scrutiny of proposals for admission, and the holding of the necessary meetings for election; but it would have to take an even closer interest than it had done in the past in the means open to young men to obtain the necessary education and training. He hoped it might be possible, for instance, for educational authorities, such as the universities and colleges on the one hand and the schools on the other hand, to arrange for technical studies to be pushed on as far as was possible in the years before military service.

The second of the main functions of the Institution was the encouragement of members to contribute their experience and knowledge to the common stock of the profession. To some extent, the gap caused by the cessation of meetings could be filled by continuing the publication of the Journal and by inviting written discussion on the papers published. It was probable that with the present suspension of many large public works there might be for some of the older members opportunities for recording accounts of recently completed works which in normal times they would have been unable to undertake. Also, in the greatly stimulated field of constructional work for military or defence purposes new problems were constantly arising and being solved, new methods had to be evolved, and work had to be carried out under conditions of which the implications were largely unknown. "As an example," declared the President, "may be instanced the great and varied scope of the problem of providing protection for the civilian population against bombing from the air. The work that has been done in investigation, design and construction during the past two years in this direction, to which so many members of the Institution have made, and are making, notable contributions, has, in the view of some, almost added a new branch to the profession. In the opinion of others, to which most of us will incline, the exercise of this new power acquired by man along with his conquest of the air, has introduced a factor into all branches of our work which, from the magnitude of its effects, may almost be said to have taken its place amongst the 'great sources of power in nature,' control of which is the object of our science.

"Whatever may be the result of the present conflict in putting an end to the activities of those who have made aggression and terrorism the principal aim of national policy, I can see little hope within any measurable period of time of obtaining for the human race in any part of the world permanent immunity from attack from the air by evilly disposed persons or organisations. The possibility of such attack must introduce into all our methods of design and construction of buildings and public works the additional strength and protective devices necessary, to enable men to carry on their avocations in reasonable security. With the knowledge that has been gained already in the present experimental period, supplemented by that which will emerge from any ordeal through which we may have to pass, I see no inherent difficulty, either of design or of cost, in providing such reasonable protection for any organised community."

Coming to the third main function, namely, that of research and investigation, the Institution would maintain financial support.

TIMBER CONTROL—HOW IT WORKS

[COMMUNICATED.]

THE outbreak of war found supplies of timber in this country at an abnormally low level. Furthermore, our great imports of softwoods from Northern and Central Europe were immediately curtailed, so that replacements were precarious. Until the exact position of available stocks could be precisely ascertained it was obviously in the national interest to prevent all sales except for purposes of vital importance.

The requirements of the Service Departments and other Government bodies make it essential that softwood timbers must still be very rigidly conserved, but the position in regard to certain types of hardwoods, plywood and decorative veneer is more satisfactory, and within narrow and reasonable limits should become available to builders, cabinet makers and other consumers.

The machinery of licensing is operated through Area Officers covering Great Britain and Northern Ireland (see *The Builder*, October 6). A builder, cabinet maker or other consumer requiring material applies to the Area Officer for his district for Form TC3/8/1, "Consumer's Application to Acquire Supplies." This form when complete is returned to the Area Officer, who will satisfy himself by a proper investigation :—

(a) That the application comes within the several categories [enumerated below] under which timber may be released for work of national importance.

(b) That the quantity required is no more than is sufficient to carry out the work on hand, with a minimum of waste.

Normally within 48 hours the licence will have been approved, suitably amended, or rejected. Area Officers of the Timber Control will only grant licences for timber which is for immediate use and for a very limited time ahead.

Works for which wood goods can be immediately released are as follows :—

(a) Supplies for contractors and subcontractors to meet the requirements of Government contracts for which they can show the requisite authority.

(b) Supplies for local authorities or others charged with duties under the Civil Defence Act.

(c) Supplies to railway companies and to public utility undertakings for essential repairs, maintenance work and extensions.

(d) For collieries for essential repairs and maintenance work above ground other than pit timber, for which licence will be dealt with by the District Pitwood officers.

(e) Supplies for hospitals for urgent repair or maintenance work, or in approved cases for extensions.

(f) Requirements for timber concerned with the manufacture of export products and packing, but *not* for the export of wood, and wood products, for which a special licence must be obtained.

(g) Maintenance and repair of public buildings, schools, etc. In this connection certificates should be obtained from the local councils or other authority.

(h) Supplies for the Ministry of Agriculture and farmers and/or persons employed in the production of necessary foodstuffs.

(i) Supplies for the purpose of putting partially built houses into weather-proof condition.

(j) Factory repairs and maintenance where such can be shown to be related to the war effort of the country.

In regard to applications from contractors engaged in the completion of housing schemes as distinct from builders erecting one or more houses sold or for sale, the sanction of the Ministry of Health must be obtained by the local authority.

Certain discretion is exercised by Area Officers, and architects carrying out work under such public bodies as the Ministry of Health, Ministry of Agriculture, the Home Office, etc., should obtain an appropriate certificate for attachment to the application for a licence to consume wood.

Every consideration is given to the claims of those who manufacture agricultural equipment, including requisites for the bee-keeper or the chicken farmer.

Licences to acquire timber are not necessary for purchases valued at under £20 in any one calendar month.

There are many manufacturing firms throughout the country who, at the outbreak of war, held stocks of timber and who continue to hold stocks. Any manufacturer having in his possession more than 50 standards of softwood, 5,000 cu. ft. of hardwood, or 2,000 cu. ft. of plywood is bound, under Paragraph 5, Order No. 1 Ministry of Supply, Timber Control Order, to declare such stock to the Timber Controller.

It is hoped, as soon as the stock position is improved, that moderate supplies of timber may be released to manufacturers and other consumers of wood engaged in the maintenance of normal industry. Preference in regard to release will be given to some of the more unusual softwoods, such as Canadian western white pine, hemlock and Parana pine, and, in hardwoods, to woods associated with decoration rather than utility.

Within the Timber Control a department has been set up to promote timber economy. The function of this department is to take steps which may seem appropriate to ensure the best and most economical utilisation of timber for Government and civil purposes—to recommend substitutes whenever it is desirable from the point of view of the availability of stock, and to prevent wastage.

EMERGENCY ADDRESSES

MESSRS. GEORGE S. N. STONE AND CO., chartered architects, have removed from Staple Inn-buildings, High Holborn, W.C.1, to 24, Cedarhurst-drive, Eltham, S.E.9.

MR. MARTIN SHEFFIELD, P.A.S.I., has removed from 7, Gower-street, W.C.1, to April Cottage, World's End-lane, Chelsfield, Farnborough, Kent. Telephone No. : Farnborough 3342.

The TECHNICAL INFORMATION BUREAU OF LEAD INDUSTRIES DEVELOPMENT COUNCIL, as from November 10, are operating from their usual address—90, Ebury-street, S.W.1—and not from the emergency address previously advised.

The CLAY PRODUCTS TECHNICAL BUREAU OF GREAT BRITAIN, LTD., has returned to its permanent address, 90, Ebury-street, S.W.1, as from November 10 last.

BUILDING INDUSTRIES SERVICES, LTD., have returned to their permanent address at 90, Ebury-street, S.W.1, as from November 9.

MESSRS. E. WALTER GEORGE, LTD., have removed from High Holborn to 90, Ebury-street, S.W.1 (telephone : Sloane 9801).

OFFICIAL NOTIFICATION

EXPORT LICENCES.

The Board of Trade have made an Order (the Export of Goods (Prohibition) (No. 2) Order, 1939, Amending (No. 10) Order, 1939), which came into force on Wednesday, November 15, which includes the following provisions :—

The following goods will now only require export licences when consigned to destinations in the European or Mediterranean areas (excluding France, Egypt and Palestine) : Paints and painters' enamels; distempers; varnish and lacquer; and printers' ink.

Animal hair will require an export licence when exported to destinations in the European or Mediterranean areas (except France, Egypt and Palestine).

War Budget Income Tax Guide.

Messrs. Jordan and Sons, Ltd., have just issued their new Income Tax Guide, 1939-1940, War Budget Edition. It shows at a glance the new income tax rates and reliefs, and numerous examples are used to illustrate the varied circumstances of taxpayers. Price 6d. net, by post 7d., the guide is obtainable from 116, Chancery-lane, W.C.2.

LAW REPORT

SUCCESSFUL CLAIM BY ARCHITECT FOR SERVICES RENDERED.

KING'S BENCH DIVISION.

Before MR. JUSTICE WROTTESLEY.

Roberts v. Thorpe.

In this case Mr. Ivan Frederick Roberts, L.R.I.B.A., an architect and surveyor, of Guildford, Surrey, claimed the remuneration due to him under an alleged oral agreement to prepare plans, etc., for the development of the Bapchild Estate at Sittingbourne, Kent, for the defendant, Mr. Bernard Thorpe, a solicitor, of Millbank-terrace, Westminster, S.W.

Mr. Roberts's case was that Mr. Thorpe entered into an oral agreement with him whereby he was employed as the architect to prepare drawings, plans and bills of quantities, etc., for the erection of 124 cottages by direct labour on the Bapchild Estate for the defendant.

Mr. Roberts pleaded that it was agreed that he should be paid £15 in respect of each of the cottages. He said he had done all the professional work he agreed to do and had consulted with the defendant's town planning consultant, Mr. Brookes, and with the Town Planning Authority at Sittingbourne. Mr. Thorpe had failed to carry out the scheme, and he (Mr. Roberts) now claimed reasonable remuneration for the work he had executed, he having received £100 on account from Mr. Thorpe.

Mr. Thorpe raised a number of defences. He denied that he employed Mr. Roberts as his architect and pleaded that the latter had not produced a scheme that would show the return he (defendant) desired for the estate, and that he was never under any obligation to make payment to plaintiff. In the alternative he pleaded that the plaintiff had accepted the £100 he had paid him in satisfaction of all that was due to him and denied that he had agreed to give plaintiff reasonable remuneration.

During the hearing of the case, which lasted several days and when a mass of evidence was given on both sides, it was agreed that if his lordship found that the plaintiff was entitled to remuneration the total sum should be £350, which sum included the £100 the plaintiff had already received.

In the result his lordship, in giving judgment, said he accepted the plaintiff's evidence and he awarded him £350, which included the £100 he had already received.

Judgment was accordingly entered for the plaintiff for £250 with costs.

Mr. Cecil Havers, K.C., and Mr. E. Rawlings appeared for the plaintiff; and Mr. Robert Fortune for the defendant.

CALENDARS AND DIARIES.

The suitability of diaries as Christmas gifts, always apposite, is increased in time of war, not only by virtue of additional uses they find but because of their convenience for sending by post. The wide range of diaries published by Messrs. Charles Letts and Co. has this year been increased by the production of such topical editions as the Services Diary and the Auxiliary Territorial Diary. Both these contain a wealth of information and data which make them of particular interest. The old favourites are also issued. These include diaries for the Schoolboy and Schoolgirl, the Business Man, the Scout and Guide, the Motorist—all diaries being of normal size and variety of bindings, but without any price increase. To the architect and constructor we commend the large desk diary with generous space for each day and with blotting-paper interleaved. To make sure of this, we suggest he buys it for himself! At prices ranging from 1s. 3d. onwards, these diaries may be obtained from stationers or, in case of difficulty, from Diary House, Borough-road, S.E.1.

NEW BUILDINGS IN LONDON

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Where business representatives cannot be seen personally at this stage, this should be mentioned. Items should reach 4 Catherine-street, Aldwych, W.C., not later than Wednesday morning.

CROYDON.—Houses.—The T.C. is to proceed with the erection of 66 houses, eight flats and four shops at Leighton-street area, West Croydon, at a cost of £32,000. Messrs. Horace Newby, Ltd., 125, Burnt Ash-road, Lee, S.E.12, are the contractors.

FINCHLEY.—Factory.—Additions are now being erected at the factory premises in Oak-lane, N.2, for Messrs. Simms Motor Units. Mr. S. G. Monk, 610, High-road, North Finchley, N.12, is the architect. The contractors are Messrs. C. F. Day, Ltd., 705, High-road, N.12.

FULHAM.—Switch House.—The General Emergency Committee of the B.C. has accepted the tender of Messrs. Higgs and Hill, Ltd., Crown Works, South Lambeth-road, S.W.8, at £27,590, for the superstructure for the new switch house, subject to the approval of the Electricity Central Authorities.

HAMMERSMITH. — Rebuilding. — The M.W.B. are to spend £2,500 on rebuilding the flues and boiler settings of four Lancashire boilers at the Hammersmith Works.

SURBITON. — Reconstruction. — The M.W.B. recommend £24,000 for the reconstruction of two further filter beds at the Surbiton Works. The work is to be carried out by the Board's employees.

TWICKENHAM. — Canteen. — The L.P.T.B., Broadway, S.W.1, are to have a new canteen and air raid shelter erected at Cambridge-road depot. Messrs. Adie Button and Partners, 30, St. George-street, Hanover-square, W.1, are the architects.

YIEWSLEY.—Factory.—Plans passed for a new factory in Bath-road, Sipson Corner, for Messrs. Welded Fabrications, Ltd.

IN PARLIAMENT

Buildings Insured Against Fire.

Mr. O. Lewis asked the President of the Board of Trade if he would state, as at the latest convenient date, the approximate total value of buildings insured in this country against the risk of destruction by fire.

Mr. Oliver Stanley said that no statistics were available as to the total value of buildings insured in this country against the risk of destruction by fire; but estimates which had been published of the total value of buildings in the United Kingdom had varied from about £6,000 millions to £10,000 millions.

Demand for Bricks.

Mr. John asked the Minister of Supply whether he was aware that two out of the four brickworks in the Paignton area were standing idle, and that the yards were full of unsold bricks not required locally; and what action he proposed to take to ensure that such essential industrial resources were fully employed.

Mr. Burgin said that the demand for bricks had been unavoidably affected by the reduction of building, due in part to restricted supplies of timber. The possibility of alternative methods of construction in order to obviate this difficulty, and of using bricks in place of timber for certain purposes, was under consideration.

School Building Materials.

Mr. E. Williams asked the Parliamentary Secretary to the Board of Education if he would authorise all education committees to complete all schools under construction and make provision for committees to obtain priorities in building materials.

Mr. K. Lindsay said that the President of the Board could not undertake to give any such general authorisation as was suggested. But Circular 1477, already issued by the Board, indicated that in cases where the works were well in hand, especially in reception areas where the buildings were likely to facilitate the education of an increased number of children, the Board would make every effort to facilitate their progress, and that, in particular, the Board would regard the completion of technical school buildings as important if, in addition to offering facilities which would meet the needs of the Service Departments, they provided training in the major industries which were of national importance at the present time.

Help for Architects.

Mr. Rhys Davies asked the Minister of Labour whether he was aware that many architects, surveyors and kindred professional men in business on their own account who were outside all the social insurance schemes are without work or income, owing to the national emergency; and whether he would make some arangements whereby they might secure employment in Government service.

Mr. Ernest Brown said that vacancies in Government service for architects, surveyors and kindred professional men in business were notified to the Central Register, from which suitable applicants were selected. The number of such vacancies, however, was limited, and he was considering what further steps could be taken to bring unemployed technical professional workers into touch with other suitable vacancies.

TRADE NEWS

The Nurses' Home, Macclesfield Hospital.

In connection with the Nurses' Home, Macclesfield General Hospital (illustrated in our issue of November 10), the dove-blue opal glass wall linings to bathrooms were supplied and fixed by Messrs. Eaton, Parr and Gibson (Glass Merchants), Ltd., 41-53, Kingsland-road, London, E.2.

Achieving the Draught-proof Room.

Details of a device which, when fitted to a door, prevents the passage of draught have been issued by Messrs. Woods and Co. This draught-excluder, it is claimed, will clear the thickest carpet; is self-adjusting to sloping floors; may be fixed invisibly on shop doors, by rebating the door behind kicking plates; and may be fixed on folding partitioning for winter gardens, etc. An additional use of the device is that it aids in excluding gas, and as such may be used in gas-proof rooms. Details are obtainable from the company at 55, Netherwood-street, London, N.W.

Church Lighting.

The "Holophane" Church Lighting Book, just published, is designed to appeal to church authorities, architects and electrical contractors. Written by an illuminating engineer who has a lengthy experience in the subject, it shows the practical application of "Holophane" lighting to widely differing types of ecclesiastical architecture. A series of excellent photographs is included, one showing the special lighting of Westminster Abbey for the Coronation on May 12, 1937, which directs attention to the fact that the "Holophane" lighting scheme made possible the photographic records of this historic ceremony.

Two pages which will be studied by architects and electrical contractors deal with special designs. One page illustrates a curvilinear Decorated arch, which has superimposed upon it a lantern of that period. The opposite page shows a Norman arch with a special design of Norman arch lantern. A number of pages of church lighting standard fittings are also shown to complete a book which should be a *vade mecum* to all interested in church lighting. It is stressed that the company in all its work prefers to act in collaboration with an architect or illuminating engineer. Copies can be obtained by any reader, mentioning this paper, from Holophane, Ltd., 12, Elverton street, Vincent-square, S.W.1.

BUILDING ILLUSTRATED

ST. ANDREW'S HOUSE, EDINBURGH.

The contractors for this building (Mr. T. S. Tait, F.R.I.B.A.) were as follows: Demolition, excavations and concrete foundations, Thaw and Campbell, Ltd., of Glasgow, E.1; steelwork, Redpath Brown and Co., Edinburgh; and stonework and superstructure, Jackson, Brown and Co., Giffnock, Renfrewshire. Granite Creetown was supplied by Fenning and Co., London, W.6. Sub-constractors engaged were: Stewart and Co., Aberdeen; granite Bon-Accord black, A. and F. Manuelle, Ltd., with Chas. McDonald and Co., Aberdeen; joiner work and registry, racking and bookcasing, J. Cochrane and Co., Ltd., Glasgow; plasterwork, Geo. Rome and Co., Ltd., Glasgow; plumbing, heating, domestic engineering and ventilation, and copper roofing, Hugh Twaddle and Son, Glasgow; painting work, Geo. Sellars and Co., Glasgow; glazier work, William Purdon and Son, Glasgow; electric lighting fittings, Troughton and Young, Ltd., London, Best and Lloyd, Ltd., Birmingham, and Hailwood and Ackroyd, Ltd., Morely, Leeds; light, power, bell, clock, electric installation, Woodward, Sons and Co., Ltd., Glasgow; roof asphalt work, Highways Construction, Ltd., London; marble work, J. Whitehead and Sons, Ltd., London; terrazzo work, Toffolo Jackson and Co., Glasgow; tile work, Allan and Sons, Ltd., Edinburgh, and Southhook potteries, Ltd., Kilmarnock; constructional floors, Diespeker and Co., Ltd., London; steel casements and doors, Rowe Bros. and Co., Ltd., Liverpool; wrought-iron and bronze work, Thos. Haddon, Edinburgh, and H. H. Martyn and Co., Ltd., Cheltenham; patent flat roofing, "Rudapia," by the Ruberoid Co., Ltd., Edinburgh; patent glazing, Mellowes and Co., Ltd., London; wood panelling, Veneercraft, Ltd., London; wood flooring, A. M. McDougal and Son, Glasgow; moving walls and electric lifts, Glasgow Engineers, Ltd., Glasgow; steel flagpoles, Stewart and Lloyds, Ltd., Glasgow; ironmongery and door furniture, N. F. Ramsay and Co., London; switchboards, G. P. Dennis, Ltd., Hooton, Cheshire; fire mains and hydrants, William Barton and Sons, Edinburgh; ash hoist, W. G. Rennie and Co., Edinburgh; boilers, Wilson Boilermakers, Ltd., Glasgow; linoleum, Barry Ostlers and Shephard, Kirkcaldy; linoleum laying, H. Simister and Sons, London; "Ruboleum," Barry Ostlers and Shephard, and M. Nairn and Co., Ltd., Kirkcaldy: "Ruboleum" laying, Inlaid Ruboleum Tile Co., Ltd., London; window blinds, Waring and Gillow, London; carpets (special), Templeton, Glasgow; clocks (electric), Gents, Leicester; curtain material, Donald Bros., Dundee; conference room tables, MacIntosh and Co., Kirkcaldy; hide for tables and chairs, Bridge of Weir Leather Co., Ltd.; storeroom racking, R. Brackett and Sons, Ltd., Darlington; and hire and erection of stands, David Sharp and Co., Ltd., Edinburgh.

COAL UTILISATION

TECHNICAL SERVICES TO BE CONTINUED FOR THE PRESENT.

The technical work carried out by the combustion engineers at the various branches of the Coal Utilisation Council—particularly their service of advice and assistance to consumers to ensure the utmost economy and efficiency in the use of fuel—is to be continued for the present as far as circumstances permit. The publicity and propaganda work of the Council is being discontinued, and the activities of Area Committees will also be suspended.

The Council's engineer in Scotland calls attention to the fact that the placing of sandbags round basements is sometimes done in such a way as to cut off completely the supply of combustion air for hand-fired boilers or mechanical stokers. It is suggested that members of the coal trade, most of whom are doing A.R.P. work in their own areas, might take note of this danger; and, by a little timely advice now, prevent numerous complaints and considerable trouble when the cold weather sets in.

A.R.P. SCHEMES

ATHERSTONE.—The R.D.C. proposes 12 underground shelters at Atherstone, Polesworth, Hartshill and Ansley, each to accommodate 50 persons, at £2,500. H. J. Coleby, E. and S., 102, Long-street.

ATHERTON.—The U.D.C. proposes 25 communal shelters for 50 persons each, at £5,000. F. W. Boydell, S., Town Hall.

BLACKBURN.—The T.C. proposes permanent trenches, at £8,000; basement shelters, £9,000; 5,000 steel shelters, £7,000; shelters to schools, £18,000; service shelters for private houses, £7,000; 5 first-aid posts, £4,000, and decontamination centres, £3,400. W. Pickstone, B.S. The T.C. is to seek £2,540 loan sanction for shelters at gas works.

BLANTYRE.—Plans prepared for shelters. Mr. John Stewart, architect, Albert-street, Motherwell, and Messrs. Andrew Wright and Sons, of Blantyre, builders.

BOTHWELL.—Plans prepared for shelters. The architect is Mr. John Stewart, Albert-street, Motherwell, and the builder is Mr. Louis B. Whyte, of Mossend.

BROMSGROVE.—The R.D.C. are to recommend the Worcestershire E.C. to erect shelters at Cofton Park for 150; two shelters for 50 at the junction of Coombes and Grovelley-lanes; and a shelter at the junction of Longbridge-lane and Grovelley-lane.

CHELSEA.—The B.C. has placed contracts with Messrs. White and Johnson, Ltd., for first-aid post at Westminster Institution, Fulham-road, and Messrs. R. Dixon and Sons, for shelter at 96, Cheyne-walk. The Council are to take up a loan of £12,000 for public shelters. For the provision of public shelters amounting to £35,700, application has been made to the M. of H. for loan sanction.

CHESHIRE.—The C.C. proposes shelters at Weaverham council school.

COVENTRY.—For school trench shelters at (a) Bablake school; (b) the Grammar school, for the T.C., the contractors are (a) Messrs. F. G. Plumb and Sons, Ltd., West Orchard, Coventry, and (b) Messrs. Breeze and Burdett, Cheveral-avenue, Coventry. Cost, £4,000.

DARLINGTON.—The T.C. is to construct shelters, at £4,288, and has also prepared schemes for a report centre and decontamination centres, to cost over £6,000. E. Minors, B.S.

DARWEN.—The T.C. is seeking sanction to borrow £10,000 for shelters at 16 council schools.

DEPTFORD.—The B.C. recommend the following contracts: Shelter accommodation at Folkestone Gardens, Norfolk House and Rectory Buildings, Messrs. Greenaway and Son, 265a, Lordship-lane, S.E.22; first-aid posts at Aske's Boys' School, Goldsmiths' College and Evelyn-street, Messrs. W. H. Gaze and Sons, Ltd.; and domestic surface shelters, in certain parts of the borough, Mr. H. T. Else, of 8a, Brackley Road, Beckenham.

DURHAM.—The County E.C. is to borrow £225,000 for shelters at schools.

EDINBURGH.—The Royal Edinburgh Hospital for Sick Children is to erect a decontamination centre at the hospital in Sciennes-road, and the Astley-Ainslie Institution, two shelters at the institution in Grange-road.

FELLING.—The U.D.C. is to build shelters for 306 houses at Bill Quay, at £3,011, and a decontamination centre at Heworth, at £1,200.

FINSBURY.—The B.C. recommend the construction of further shelters in various parts of the borough at a total cost in excess of that already authorised amounting to £35,153. Additions are to be made to Pine-street and Bath-street shelters, at £3,105.

FULHAM.—For construction of public shelters under the car park ramp at the Empress Hall, and on the land at the rear of the Moat-gardens at Bishop's Park, the B.C. has accepted the tenders of the London Co-operative Society, Ltd., at £415, and Messrs. F. G. Minter (Decorations), Ltd., at £1,156, respectively. A public shelter capable of accommodating 427 persons to be incorporated in the Fulham-road housing scheme, at £2,290.

GATESHEAD.—The E.C. is to apply for 100 per cent. grant towards shelters for 10,719 school children at evening classes. Cost estimated at £2,492.

GLASGOW.—Plans prepared for shelters as follows: five for Messrs. W. and J. Bower, Ltd.; R. McGill; T. McBurnie, Bearsden Station; Merino Wool Manufacturing Co., Ltd., Sauchiehall-street; D. MacIntyre; United Dairies' Buildings, Millroy-street; William Stevenston; Printing Works of David J. Clark, Ltd., Coltan-street; Wilson Brothers, Pinkston-road; Johnstones Bakery, etc., at Willcrop-road, Eglinton-street; Messrs. Miller and Black, West Regent-street, are the architects for all schemes. Shelters for block of over 100 offices and shops and showrooms bonded by four streets, Mr. Harold H. Hughes, architect, 121, Douglas-street. Building works by Messrs. R. Linden and Co., Ltd., of Pollokshaws, and steelwork by Messrs. Wm. Baird and Sons, Ltd., of Glasgow. For shelters at the Royal Exchange, Queen-street, Messrs. Frank Burnet and Boston, 180, Hope-street, Blythswood, are the architects and quantity surveyors, and Messrs. Shaw and Campbell, Ltd., Glasgow, the contractors.

GLASGOW.—Plans prepared for shelters at Bothwell-street. Messrs. Wylie, Shanks and Wylie, architects, 204, West Regent-street, Glasgow. Contractors, Messrs. T. Cooper and Co., Ltd., Glasgow.

GREENOCK.—Plans have been prepared for the following shelters: Mr. Robert Miller, architect and quantity surveyor, Hamilton-street, esplanade; J. Anderson, Ltd., Rut End; Broomhill district: James Preston and Sons, Greenock; Cartsburn Sugar Refinery Site; J. and R. Kirk, Ltd., Greenock; Regent-street and Bank-street: D. McEwan and Co., Ltd., Greenock.

GREENOCK.—The Corporation have received the approval of the Home Office for a cleansing station in the ground at the rear of Togo House, Dempster-street, at £1,450.

HAMILTON.—The T.C. has decided to proceed with 30 shelters.

JARROW.—The T.C. has obtained sanction to construct shelters for about 1,000 more people. Mr. J. S. Weir is the Borough Engineer.

LANCASTER.—The T.C. proposes bricklined trenches for 1,348 persons, at £7 16s. 9d. per lin. yd., and to complete trench and adaptation of 30 basements for shelters at £5,467.

LEEDS.—The City Council has approved a shelter to serve the City Markets and the Corn Exchange, at £4,000.

LEWISHAM.—The B.C. are to provide further accommodation for A.R.P. at the council's depots, at £5,050.

LEYTON.—The T.C. has accepted the tender of Messrs. Barvis Partners, of Romford, for a cleansing station at the Presbyterian Church, at £2,977.

LIMEHURST.—The R.D.C. proposes brick and concrete communal shelters, 111 in Bardsley and 306 in Waterloo. R. Thompson, S., 200, Oldham-road, Waterloo, Ashton-under-Lyne.

LINDSEY.—The C.C. proposes shelters at Cleethorpes and Barton-on-Humber, etc., at £13,450; and shelters at Louth, Horncastle Brigg and Skegness.

W. C. YOUNGMAN LTD
WANDSWORTH WORKS
WANDSWORTH ROAD
LONDON S.W.8

LIVERPOOL.—The Corporation has approved the following shelters: At 14 Dunbabin-road, by Mr. H. Davidson, for Mr. A. E. Vipond; 93, Menlove-avenue, by Messrs. Richard Owens and Son for Mr. E. Hughes; and 205, Lowerhouse-lane, by the North-West Construction Co. for Mr. W. Quirk.

LOCHWINNOCH.—Plans have been prepared by Mr. D. Murray, 7, Gilmour-street, Paisley Cross, for shelters for the Old and the New Public Schools.

MANSFIELD.—Messrs. A. Mason (Contractors), Ltd., Kirkland-avenue, Sutton-road, Mansfield, at £13,300, are the contractors for shelters at the following schools: High Oakham, King Edward, Broomhill, Newgate, Garter-lane, Moore-lane and Bull Farm for the E.C.

MIDDLETON.—The T.C. are to erect 72 public shelters, 28 communal shelters are to be built for the T.C. by direct labour. Precast concrete units are to be supplied to the T.C. by the Concrete Unit Co., Ltd., Lyons-road, Trafford Park, Manchester, 17, at £3,500.

MORECAMBE AND HEYSHAM.—Messrs. W. Huddleston, 46, Chatsworth-road, and Messrs. A. Robinson and Sons, West End-road, Morecambe, are the contractors for 26 shelters on various sites, and at Balmoral-road, Lancaster-road and Heysham schools respectively. Cost, £6,880.

NEWCASTLE-ON-TYNE.—The City Council is to spend another £3,000 on report centre at headquarters in Jesmond Dene-road.

NORTHAMPTON.—The Borough Engineer is to obtain up to 1,000 yards of trench linings if necessary, and construct additional trenches in Millers Meadow, Kingsthorpe Park, Becket's Park and Abington Park.

NORTHANTS.—The C.C. proposes adapting 20 depots for mobile first aid parties, at £1,475; adaptation and protection of wardens' posts, at £1,150, and protection to schools, at £15,000.

PETERBOROUGH.—The T.C. is to provide shelters at various schools, at £10,800.

PRESTON.—The T.C. is to seek £13,830 loan for shelters at a number of R.C. schools.

PUDSEY.—The T.C. proposes shelters for school children. Mr. Basil H. Noble is the Borough Engineer and Surveyor.

RENFREW.—Plans prepared for shelters for Renfrew High School. Messrs. Abercrombie and Steel Maitland, architects, County-square, Gilmour-street, Paisley.

ROYSTON.—The U.D.C. propose shelters at Horbury Bridge, Spring End and the junction of Northfield-lane, Wakefield-road and Austerland-road.

ST. PANCRAS.—The B.C. has placed the following contracts: cleansing station, National Central Library, Malet-place, Mattock and Parsons, Ltd., £1,577; depot, William Ellis school, J. F. Collins and Co., £3,910; strutting of private basements, W. R. Catchpole, £1,023 13s. 6d., A. J. Thompson and Co., Ltd., £1,053 5s., Goddard and Phillips, £463 14s. 10d. and £1,097 15s. 4d. £2 630 is to be spent on a new depot at Bartholomew-road.

SHEFFIELD.—The T.C. has placed a contract with Messrs. W. G. Robson, Ltd., Bamford-street, Sheffield, at £2,500, for adaptation of the main A.R.P. control centre at Castle Green.

SOUTHEND.—The E.C. have decided to put forward a recommendation to the T.C. that above-ground shelters should be provided at most of the schools, at £17,030.

STANLEY.—The U.D.C. is to construct shelters for the children on waste land. Mr. J. R. Heslop is the surveyor.

STOCKTON-ON-TEES.—The T.C. is to provide shelters at schools for 6,075 children, at £18,225.

SUNDERLAND.—Shelters are to be built by direct labour, at £20,000, at nine schools for the E.C. Mr. O. H. Mark, 4, Tatham-street, is the education architect.

SUTTON COLDFIELD.—The Asphalte and Public Works, Ltd., Norwich Union-chambers, Edmund-street, Birmingham, 3, are the contractors, at £6,589, for shelter trenches at schools for the E.C.

WANDSWORTH.—The B.C. has approved the following schemes: Squad depots: Pinbright-road, Southfields, £5 578, and Ashlone-road depot, Putney, £2,988; eight 50-person shelters, £1,600; domestic surface shelters:

Coronation-gardens, Southfields; St. Faith's Church, Ebner-street, Smardale-road, and rear of Wandle House, Twilley-street, Wandsworth; and rear of premises, Oakhill-road and Oakhill-place, Putney, £1,244; 117 wardens' reporting posts, £14,153; first-aid posts: Fairlight hall, Tooting, £850; St. Benedict's hospital, Tooting, £1,400; Streatham Congregational hall, £800; Maternity home, Balham, £1,500; shelters, Council's tenement dwellings, £22,000; 50 50-person public shelters, £9,600. Detailed schemes are to be prepared by Mr. C. F. De Steiger, of Messrs. A. Kirkwood Dodds and Partners, for report centres at Streatham and Putney, and by Mr. H. Iorys Hughes for Clapham and Balham. Preliminary plans have been prepared by Mr. H. Iorys Hughes, A.M.I.Struct.E., of a bomb-proof stronghold beneath the car park at the rear of the Municipal Buildings, at £15,700. A number of contracts have been placed for these works.

WARWICKSHIRE.—The E.C. is to provide shelters for 6,000 pupils in secondary and technical schools, at £18,000.

CONTRACTS OPEN

For some contracts still open, but not included in this list, see previous issues. Those with an asterisk are advertised in this number. Certain conditions beyond those given in the following information are imposed in some cases, such as that advertisers do not bind themselves to accept the lowest or any tender, that a fair wages clause shall be observed, that no allowance will be made for tenders; and that deposits are returned on receipt of a bona-fide tender, unless stated to the contrary. The dates at the head of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained. Abbreviations: (A) for A.R.I.B.A.; B. of E. for Board of Education; B.C. for Borough Council; B.E. for Borough Engineer; B.S. for Borough Surveyor; C. for Clerk; C.B. for County Borough; C.C. for County Council; C.E. for County Engineer; C.S. for County Surveyor; D.S. for District Surveyor; E. for Engineer; E.C. for Education Committee; (F.) for F.R.I.B.A.; (L.) for L.R.I.B.A; M.W.B. for Metropolitan Water Board; M.H. for Ministry of Health; M.T. for Ministry of Transport; P.C. for Parish Council; R.D.C. for Rural District Council; S. for Surveyor; T.C. for Town Clerk and Town Council; and U.D.C. for Urban District Council.

BUILDING.

NOVEMBER 18.

Chislehurst and Sidcup U.D.C.—Surface shelters in brickwork with reinforced concrete roofs. Mr. E. Lawes, E. and S. Dep. £2 2s.

Plymouth T.C.—25,000 ft. lin. of timber seating for shelters. J. Paton Watson, City E., Guildhall. Dep. £1 1s.

NOVEMBER 20.

Brigg U.D.C.—Six public air raid shelters. N. D. Preston, S., Riverside East.

Chorley R.D.C.—14 semi-sunk type brick shelters each to accommodate 50 persons. W. Cotterill, Council Offices.

Hemsworth R.D.C.—Public shelter. W. T. Lynam, E. and S., Market-chams. Dep. £2 2s.

Hucknall U.D.C.—Domestic surface air raid shelters. H. M. Aitchison, S.

Lewdown—Alterations at "Royal Exchange" inn, for Plymouth Breweries, Ltd. C. W. Parkes Lees and Son, architects and surveyors, Fowey.

New Ross U.D.C.—Forty-nine houses at New Ross, and development works including new roads, paths, etc. J. V. Downes, architect, 53, Fitzwilliam-sq., Dublin. Dep. £5 5s.

Plymouth T.C.—Twenty-two communal surface shelters. J. Paton Watson, City E. and S. Dep. £2 2s.

Royal Cornwall Infirmary, Truro.—New entrance to grounds. A. J. Cornelius, architect, Truro.

Southport and District Water Board.—Brick filter house and water tower, with concrete foundations, at existing Springfield pumping station, Aughton, near Ormskirk. Norman Jones and Rigby (FF.), Williams Deacons Bank-chambs., Lord-st., Southport. Dep. £2 2s.

***Surbiton T.C.**—Erection of 50 Anderson steel shelters. B.E. and S. Dep. £1 1s.

Warrington C.B.—Air raid shelters at Whitecross Institution. J. Y. Hughes, B.E. and S.

NOVEMBER 21.

Commissioners of Public Works.—Improvements to Camcloon and Mount Welcome National schools. Geo. P. Fagan, Sec., Office of Public Works, Dublin. Dep. £1.

Mangotsfield U.D.C.—Steel domestic air-raid shelters. Surveyor's Dept.

Newcastle-upon-Tyne Corporation.—Alterations to form new office accommodation at "Sunlight-chams.," Bigg Market. City Estate and Property Surveyor.

Nottinghamshire C.C. — Brick-built cleansing station at each of following police stations: Nottingham County Headquarters, Mansfield, Worksop, West Bridgford and Sutton-in Ashfield. County Architect, Nottingham. Dep. £1 1s. each.

Sligo Board of Health.—Dispensary at Tobercurry. C. T. McLynn, architect, 35, Royal-av., Belfast. Dep. £3 3s.

Southborough U.D.C.—Cleansing station for A.R.P. in Council yard. S.

NOVEMBER 22.

Poulton-le-Fylde U.D.C.—Brick air-raid shelters. W. G. Wolley, S.

Wellington R.D.C.—500 dwellings, Donnington Wood site, Donnington. J. Brian Cooper, architect, 177, Corporation-street, Birmingham, 4. Dep. £2 2s.

NOVEMBER 23.

Wallasey C.B.—100 public air raid shelters, each to accommodate 50 persons, and erection of one or more public air raid shelters. B.E. and S. (Two contracts.)

NOVEMBER 24.

Irish Land Commission.—House and outoffice, south-west of Cootehill, along Cavan-rd., Cavan; house and outoffice, together with gate and piers, Raheelagh, near Stradone; three houses, also an old dwelling-house to be demolished, four miles east of Ennis; five houses and outoffices, Island Magrath, about four miles south of Ennis; 13 houses and outoffices, together with gates and yards, Oughterard, about five miles north-east of Naas; house and outoffice, Killyon, about 3½ miles south of Enfield; house and outoffice, Knockarley, about four miles south-west of Kinnitty; house, Glenafilly; three houses and outoffices, Ballyglass, about eight miles north of Roscommon; two houses and outoffices, Tullamore, about three miles west of Nenagh. M. Deegan, Sec., Upper Merrion-st., Dublin. Dep. £1.

NOVEMBER 25.

***Surbiton T.C.**—Ambulance station at Clayton-road, Hook. B.E. and S. Dep. £1 1s.

West Riding E.C.—Washhouse at Goole Modern school caretaker's house. E. L. Harrap, Education Offices, Goole.

DECEMBER 1.

British Aluminium Co., Ltd.—Foundations for factory buildings at alumina works at Newport, Mon. C. S. Meik and Halcrow, engineers, 16, Victoria-st., Westminster, S.W.1. Dep. £5.

DECEMBER 4.

South Riding County Board of Health.—18 houses at Gortna-lower, Ardfinnan. J. Fogarty, engineer, County Council Offices, Clonmel. Dep. £7.

PAINTING, ELECTRIC LIGHTING, HEATING, &c.

NOVEMBER 18.

Ebbw Vale U.D.C.—Central heating at Willowtown schools. N. E. Holloway, Consulting E., 17, St. Andrew's-cres., Cardiff. Dep. £1 1s.

North Cork Board of Health.—Repairs to cottages in Charleville, Fermoy, Kanturk, Mallow, Mill-st. and Mitchelstown rural districts. D. C. Murphy, Sec., County Hospital, Mallow.

South Cork Board of Public Health.—Repairing cottages, Macroom district; erecting pump at Birch Hill, Cork district; extension of Crosshaven water main to Weaver's Point. J. Hurley, Sec., 2, Douglas-rd., Cork.

West Riding County Council.—Renewal of classroom floors—Mexborough, Dolcliffe-road Modern School; Conisbrough, Morley-place Council School; Conisbrough, Balby-street Council School; Dearne Thunscoe Council School. Renewing wood block floor of hall—Dearne Goldthorpe Council Infants' School. Pointing of boundary and retaining walls—Conisbrough, Station-road, Council School. E. B. Stockdale, divisional clerk, Education Office, Mexborough.

NOVEMBER 20.

Batley E.C.—Painting of certain schools. B.E., Brunswick-st.

Coulsdon and Purley U.D.C.—Repair of the slate roof at Coulsdon Court Golfhouse, Coulsdon-rd., Coulsdon. S.

Lancs C.C.—4,900 lin. yds. of chain link fencing, also fixing of eleven guards to field gates on Myerscough County-rd. diversion. P. Schofield, C.S. and Bridgemaster, Preston. Dep. £2.

Sligo Board of Health.—Repairs to various groups of cottages. T. J. Coulon, Sec., Sligo. Dep. £1.

Warrington C.B.—Seating, doors, partitions, etc., in air raid shelters. J. Y. Hughes, B.E. and S.

Wicklow Board of Health.—Boundary wall, entrance gate, piers, and paths at extension of cemetery at Arklow. J. T. O'Byrne, E., Carrigbawn, Wicklow. Dep. £5.

York T.C.—Painting at various schools during Christmas holidays. C. J. Minter, City E. Dep. £1 1s.

NOVEMBER 21.

Scottish Special Housing Assn., Ltd.—Electrical work at following evacuation camps: Middleton, Gorebridge; Belmont, Meigle; Glengonnar, Abington; Dounans Farm, Aberfoyle. N. J. Campbell, S.S.C., Sec., 11, Drumsheugh-gdns., Edinburgh.

NOVEMBER 22.

***Beds C.C.**—Installation of two electrically controlled lifts and installation of electric lighting, etc., at St. Peter's hospital, Bedford. County Architectural Dept., Bedford. Deps. £2 2s. each (two contracts).

Belfast County Borough.—Pointing and repairing various walls in Falls, Glenbank and Ormeau Parks, and repairs to hay shed in Musgrave Park. City Surveyor (Architectural Section, Room 91), City Hall.

NOVEMBER 23.

Ballymena Regional E.C.—Heating installation at Kells and Connor P.E. school, Co. Antrim. J. Scott, architect, 15, Fountain-street, Belfast.

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Commissioners of Public Works.—Building labour and materials for buildings in their charge in Cork City and District for period of one year. Geo. P. Fagan, Sec., Office of Public Works, Dublin. Dep. £1.

NOVEMBER 24.

***Birmingham T.C.**—Sanitary fittings in connection with new toll market and combined car park and air-raid shelter in Edgbaston-st. Martin and Martin and W. H. Ward, architects, 106, Colmore-row, Birmingham, 3. Dep. £2 2s.

NOVEMBER 25.

Stafford T.C.—Painting various bridges and fences. W. Plant, B.E.

NOVEMBER 28.

Magherafelt Regional E.C.—Installation of electric light and power wiring and fittings for Technical school extension. R. T. M'Guckin, architect, Garden-st.

MATERIALS, &c.

NOVEMBER 18.

Bath T.C.—Spatar macadam and clean broken stone. City E. Dep. 10s.

North Cork Board of Health.—1,000 tons of limestone for Michelstown drainage works. D. C. Murphy, Sec., County Hospital, Mallow.

Tyrone C.C.—Rough stone, etc. C.S., Omagh.

NOVEMBER 22.

Tyrone C.C.—Tar-bitumen mixture and cold bitumen emulsion. B. G. L. Glasgow, C.S., Courthouse, Omagh.

NOVEMBER 23.

South African Railways and Harbours Administration.—Wrought iron short straight link chain and wrought iron stud link cable chain. Chief Stores Superintendent, South African Railways and Harbours (Purchase Section), New Park Station-cham., Johannesburg. (Ref. T. 28032/39.)

NOVEMBER 24.

Antrim C.C.—Tar and other road surface dressing materials. C.S., Belfast.

NOVEMBER 25.

Dartford T.C.—J. J. Hurtley, T.C.

ENGINEERING, IRON AND STEEL.

NOVEMBER 18.

Cliffe Internal Drainage Board.—Concrete tube outfalls on piled foundations, fixing of tidal flaps and other work at eleven cloughs in Rivers Ouse and Derwent between Newlands Farm near Selby and Lower Hagthorpe near Loftsome Bridge. Fairbank and Son, engineers, Barclays Bank-chs., St. Helen's-sq., York. Dep. £1 1s.

West Derwent Internal Drainage Board.—Extensions, repair and replacement of tidal doors at nine cloughs situated on River Derwent between Bowthorpe Hall and Thicket Priory. Fairbank and Son, engineers, Barclays Bank-chams., St. Helen's-sq., York. Dep. £2 2s.

NOVEMBER 20.

Donegal Board of Health.—For Lough salt water scheme. W. J. Doherty, E., 12, Castle-st., Derry. Dep. £5.

Margate Town Council.—Roof steelwork to engine and screen rooms, and erection of cooling tank gallery with hand-rail at Foreness Point pumping station. W. L. Armstrong, Borough Engineer, 40, Grosvenor-place, Margate.

Tipperary Board of Health and Public Assistance.—Water supply (Nore scheme), Roscrea. P. F. Purcell, E., Ashton, Killiney, Co. Dublin.

NOVEMBER 21.

Argentine State Railways Administration.—508 tons of mild-steel rods of various sizes. Dept. of Overseas Trade, London, S.W.1. (Ref. T.Y. 28104/39.)

Hemel Hempstead T.C.—Sinking of boreholes. D. Balfour and Sons, consulting engineers, 9, Stone-rd., Bromley. Dep. £3.

Ipswich C.B.—Steelframe buildings for boiler and turbine house, and 110-ton and other electric overhead travelling cranes, at new power station, Cliff Quay. Merz and McLellan, engineers, Milburn, Milbourne-lane, Esher. Dep. £5 5s. each.

Pontypridd U.D.C.—1,170 yards sewers and pumping station for storm-water drainage scheme at Trehafod. W. C. Evans, E. and S. Dep. £5 5s.

NOVEMBER 25.

Dunmow R.D.C.—Iron removal plant at Thaxted pumping station. Edward Sandeman and Partners, consulting engineers, 15, Victoria-st., Westminster, S.W.1. Dep £3 3s.

Plymouth T.C.—Circulating water screen at Prince Rock generating station. City Electrical Engineer, Armada-st.

Roscommon County Board of Health.—Improvement of water supply to town of Castlerea. H. N. Walsh, Consulting E., Rossalia, Shanakiel-rd., Cork. Dep. £10 10s.

NOVEMBER 27.

West Midlands Joint Electricity Authority.—Coal-handling plant required for extension of Wolverhampton generating station. H. F. Carpenter, Clerk, Phœnix-bldgs, Dudley-road, Wolverhampton.

NOVEMBER 28.

Truro R.D.C.—Pressure filtration plant, Contract No. 5, for additional works of water supply in parish or St. Just-in-Roseland. J. D. Haworth, Consulting E., 3, Central-bldgs, Westminster, London, S.W.1. Dep. £2 2s.

Valley R.D.C.—Extensions to waterworks pumping station, Rhosneigr, Anglesey. H. Adams and Son, civil engineers, 60, Queen Victoria-street, London, E.C.4. Charge 1s. 6d.

DECEMBER 1.

Seisdon R.D.C.—Filtering Media for Kinver sewage disposal works. Wilcox, Raikes and Marshall, engineers, 33, Great Charles-street, Birmingham. Dep. £2 2s.

DECEMBER 2.

Egyptian Ministry of Public Works.—Construction of new Zawame Bridge over Ismailia Canal. Dept. of Overseas Trade, London, S.W.1. (Ref. T.26584/39.)

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DECEMBER 9.

Stone D.C.—Works of sewerage and sewage disposal. Contract N. 3. A. H. S. Waters, E., 25, Temple-row, Birmingham, 2. Dep. £2 2s

DECEMBER 11.

Salisbury and Wilton R.D.C.—For Stratford-Sub-Castle water supply.—Lieut.-Col. W. Herbert Bateman, Consulting E., Batheaston, Bath. Dept. £1 1s.

NO DATE.

Iranian Ministry of Communications.—Steel jetty at Bandar Shah on Caspian Sea. Commercial Attaché, White House, Chapel-la., West Humble, Dorking.

Northbleach R.D.C.—For Northbleach water supply scheme. John H. Haiste, civil engineer, Middleton-chambs., Lowgate, Hull. Dept. £1 1s. each (two contracts.

ROAD, SEWERAGE AND WATER WORKS.

NOVEMBER 20.

Colchester T.C.—18-in. dia. asbestos cement pipeline of approximately 2,950 lin. yds., and 40 lin. yds. of 10-in. dia. asbestos cement pipes, at Cook's Mill to Lexden pipeline. H. Collins, B.E., Dep. £2 2s.

Lancaster T.C.—Making-up of Clare-road Lambert-road (part of). F. Hill, City E.

Sunderland R.D.C. — Sewers, drains, carriageways, footpaths, boundary walls, etc., in connection with proposed extension of cemetery at Ryhope. E. Hitchens, 1, The Esplanade.

NOVEMBER 21.

King's Lynn T.C.—Road reconstruction works in Tennyson-rd. and Sutton-rd. J. C. Matthews, B.E.

Scottish Special Housing Assn., Ltd.—Water supply, drainage and access road for evacuation camp at Glengonnar, Abington. Crouch and Hogg, chartered civil engineers, 17, Woodside-crescent, Glasgow, C.3.

NOVEMBER 22.

Barrow-in-Furness T.C.—Completion of various streets. F. L. Wooldridge, B.E.

Wellington R.D.C.—Concrete roads and sewers, Donnington Wood site. J. Brian Cooper, architect, 177, Corporation-street, Birmingham, 4. Dep. £2 2s.

NOVEMBER 25.

West Riding E.C.—Re-asphalting playground surfaces, etc., at Junction-rd. school, Stainforth. E. L. Harrop, Education Offices, Goole.

NOVEMBER 27.

Beckenham T.C.—24-in. iron out-take pipe from condenser plant to stream at Electricity Works, Churchfields-road. J. Dove, B.E. and S.

Mountain Ash U.D.C.—Street works in Welsh-st., Tyntetown, Penrhiwceiber. A. Williams, E. and S.

Wakefield T.C.—Street works in Buxton-pl., Clifton-pl., Arlington-st. (portions of) and five adjoining back streets. S. Hutton, City E. and S.

NOVEMBER 28.

Merioneth E.C.—Installing water carriage draining system at Llanbedr Council school. N. L. Jones, County Architect, Dolgelley.

NOVEMBER 29.

Balderton P.C.—Drainage work at new cemetery. R. Oakden, S., Church-street, Farndon, Newark.

NOVEMBER 30.

Luton T.C.—Sewering and making-up of St. Ethelbert's av. F. Oliver, B.E. and S. Dep. £2 2s.

North Walsham U.D.C. — Storm-water drainage, kerbing and paving works on Mundesley-rd. W. Morris, E. and S. Dep. £1 1s.

DECEMBER 2.

Luton R.D.C.—36,500 yds. of spun-iron water pipes. H. Pickering, 73, West Parade, Dunstable. Dep. £2 2s.

Public Appointments.

NO DATE.

***Derby C.B.**—General foreman for new municipal buildings. A. Sheard, Manager, Building Works Dept., Osmaston-rd.

CURRENT AND PROPOSED BUILDING WORK*

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Where business representatives cannot be seen personally at this stage, this should be mentioned. Items should reach 4, Catherine-street, Aldwych, W.C., not later than Wednesday morning.

Batley.—Thrift Estates, Ltd., Civic House, Great Charles-st., Birmingham, 3, own staff architect prepared plans for emporium, Commercial-st. T.C. approved plans.

Batley.—Amended plan for new Littlewood store in Commercial-st. approved.

Belfast.—Plans passed by City Surveyor: Extension of silo, Messrs. Rank; church hall, Argyle-place Presbyterian Church, for Committee; alterations to St. Michael's Parish Church, for Select Vestry.

Blackpool.—C.B. to make application to M.H. for consent to proceed with erection of remedial block at Derby baths.—Scheme for maternity hospital rear of Municipal Health Centre to be proceeded with.—Chief Officer of Fire Brigade to be authorised to arrange erection of temporary building alongside existing building at North Shore auxiliary fire station for housing auxiliary fire service personnel and vehicles.—Subject to M.H., contractors being instructed to proceed with erection of St. Walburgas-rd. and the St. Anne's-rd. housing estates.

Cardiff.—Plans and estimates are to be prepared for a £60,000 underground car park and public air raid shelter on the south side of Wood-st., the project having been approved by the City Council.

Chester.—T.C. recommend application to M.H. for sanction to borrow for completion of Blacon junior school, and of Newton council school.—Cheshire C.C. to be granted tenancy of portion of field rear of F Block at P.A. institution, for nine covered trench shelters.—Subject to approval of H.M. Inspector of Schools and consent of M.H., City S. be authorised to construct surface shelters to accommodate 200 pupils and teachers at George-st. council school, and 100 pupils and teachers at Egerton-st. council school, at £358 and £193 respectively.—Plans passed: Air raid shelter, 29-33, Foregate-st., for Littlewood's Stores.

Chester-le-Street.—Rural District Council proposing further 564 privy conversions in Sacriston area.

Chudleigh (Devon).—Crematorium Construction and Holding Co., Ltd., to proceed with crematorium at Horn's Cross.

Coventry.—Water Committee seeking approval for extraction of water from Avon. Estimated cost £30,000. Consultants, Binnie, Deacon and Gourley, of London, and Herbert Lapworth and Partners, Victoria-st., London, S.W.1.

Crook and Willington.—U.D.C. received letter from the North-Eastern Housing Assn., stating that they proposed to complete 50 houses at Sunnybrow.

Essex.—P.A.C. approved completion of following works: — Suttons casual wards, £17,785; Suttons extensions, £46,128, and Chelmsford extensions, £4,663.

Hackney.—Borough Council received M.H. special sanction to borrowing £109,200 for completion of building works at housing estates Warwick-grove and Springfield.

Hetton.—U.D.C. received M.H. consent to continue 18 houses on Peat Carr estate.

Kidderminster.—Kidderminster Industrial Co-operative Society, Oxford-st., acquired three shops, Worcester-st., for adaptation into two shops, at £1,000. Architects, Gething and Rolley, Kingsley-bldgs.

Lichfield.—J. T. C. Cole, L.R.I.B.A., Central Buildings, Love-lane, Blackheath, Birmingham, prepared plans for 50 houses, Curborough-road, for Hayes Bridge Estate Co., Ltd.

Liverpool.—Plans passed by the Corporation:—

Extension to factory, Edge-lane, T. A. Ashworth and Son, for J. Peck and Co., Ltd.

Offices and works extension, Edwards-lane, R. Stubbs, for Beck Keller and Co., Ltd.

Preliminary plan of new factory, Long-lane, City Architect, for Messrs. Heynerts.

Premises, Co-operative Wholesale Society, Ltd.

Decontamination centre, Rice-lane, Dunlop Rubber Co., Ltd.

Liverpool. — Reconstruction after fire, 11, Laurel-road, for Walker's Dairies, Ltd., 5, Laurel-road. H. F. Marshall, architect, 47, Whitehedge-road, Garston, 19.

Manchester.—T.C. recommend borrowing £6,055 for police and fire station at Wythenshawe; £21,299 for air raid shelters at Wythenshawe schools, £5,935 for shelters at College of Technology, etc.; £2,900 for temporary schools at Panfield-rd. and Crossacres-rd., Wythenshawe.—Provision of air raid shelter accommodation at Platt-la. and Willert-st. divisional police stations approved.—Plans approved: Storeroom to works, Nelson-st., Miles Platting; additions to works, Forge-la., Bradford; revised plan of additions to factory, Altrincham-rd., Northern Etchells

Manchester.—T.C. approved: Alterations to premises, 59-65, Great Ducie-st., Cheetham, M. A. and M. E. Kershaw, 9, Corporation-st.; roller-skating rink, Upper Chorlton-rd., Brook's Bar, for A. Thompson, Danes Hill, Moorgate, Rotherham (architect. C. A. Broadhead, Devonshire House, Moorgate, Rotherham); New University buildings, Burlington-st., for Architecture Department and Deaf Education (architects, Cordingley and McIntyre (FF.), 195, Oxford-st.); alterations and additions to five-storey shops and showrooms, Oldham-st., Tib-st. and back Piccadilly, for C. and A. Modes, Ltd. (architects, North, Robin and Wilsdon, Townsend House, Greycoat-pl., London, S.W.1); garage and offices, Fountain-st., Marble-st. and West Mosley-st., for Lewis's, Ltd., Market-st. (architects, J. W. Beaumont and Sons, 53, Spring-gdns.); offices and garage, 77/9, Fountain-st. and West Mosley-st., Clarence Chambers, Ltd. (architects, Oakley and Sanville, 60, King-st.); 80 houses, Rectory-rd., St. George's-rd., West-av., Audrey-av., Donnington-rd., School-rd., Gorton (Howard and Clarke, builders, Abbey Hey-la., Gorton, 18; architect, P. G. Kelvey, 379, Moss-la. East).—Varley Estates, Ltd., 130, Mount-st., London, W.1, proposes block of shops and maisonettes, Palatine-rd., near Heybridge-dr., Northenden.

Mansfield.—Town Council approved plans for extension to warehouse, Stockwell-gate, W. Pickard; extensions to hosiery works, Kirkland-avenue, for Seal and Turner, Ltd., Sutton-road.

Middleton.—Town Council to complete erection of 120 houses.

Murton.—Plans approved by Easington R.D.C. for premises for Murton Colliery Co-operative Society, Ltd.

Poplar. — B.C. approved:—Holland & Hannen and Cubitts, Ltd., builders, 1, Queen Anne's-gate, S.W.1, addition at Atlantic Wharf, Hawgood-st.

Rawtenstall.—Trustees of Christian Science Church, Victoria-street, Waterfoot, propose church. Architect, F. Tattersall, 10, Vernon-avenue, Huddersfield.

South Shields.—T.C. propose steel water dam, etc. T. B. Humphrey, Chief Constable, has schemes in hand.

Southall.—T.C. to make representations to H.M. Treasury for approval to continuance of Northern and Southern soil relief sewers; Dormers Wells housing scheme (first section); new municipal buildings, and for sanction to proceed also with extensions to isolation hospital and new fire station.—Plans passed:—Extension to existing foundry, The Green, Western Foundries, LeGrand, Sutcliff and Gell, Ltd.

Stanley.—U.D.C. to ask M.H. consent for new £28,000 baths scheme and Craghead sewage disposal scheme.

Stockport.—T.C. approved plans for factory, offices, stores, etc., off Station-rd., North Reddish, for Oswald McCardell and Co., Ltd., Moss Park-rd., Stretford, Manchester. Architect, J. R. Gradwell, 17, St. Anns-sq., Manchester.

Stretford. — T.C. approved:—Alterations, technical institute, Stretford-rd., Corporation; boiler-house, Westinghouse-rd., Metropolitan-Vickers Electrical Co., Ltd.; factory, Mosley-rd., J. Stephenson.

Tynemouth.—T.C. to build fire station. D. M. O'Herlihy, B.E., architect.

Tyneside.—Northern Rediffusion Service, Ltd., 79, Blackett-st., Newcastle, to build number of wireless stations.

Wembley.—Town Council approved: Abbey Estate Development Co., factory, Woodside End; Goodmans Industries, offices, Lancelot-road.

West Wycombe (Bucks).—School evacuation camp for National Camps Corporation, Ltd., 72, Victoria-st., S.W.1. G. Langley-Taylor (F.), Beaconsfield, and Sir John Burnet, Tait & Lorne, consulting architects, 1, Montague-pl., W.C.1. Quantities by O. E. Parratt, F.S.I., Adelaide House, King William-st., E.C.4.

Woolwich.—B.C. approved: S. W. Ackroyd, Commonwealth-buildings, Woolwich Church-st., S.E.18, on behalf of R.A.C.S., Ltd., mess and cloakrooms, etc., at hardware store, Commonwealth-bldgs., Woolwich Church-st.

Worcester.—Co-operative Society proposes buildings.

Worthing.—T.C. approved: F. Kenton, block plan for 26 houses to front Vale-walk and Hillview-rise; E. J. Love, for Committee of Worthing Branch British Red Cross Society, hall, Broadwater-rd.; M. R. Fletcher, for Christian Science Society, church and Sunday school, Grand-av.

* See also List of Contracts Open.

***** In these lists every care is taken to ensure that information given is accurate and up to date, but it may occasionally happen that, owing to building owners taking the responsibility of commencing work before plans are finally approved by the local authorities, "proposed" works at the time of publication have been actually commenced.**

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RATES OF WAGES IN THE BUILDING TRADE

AS AND FROM 1st FEBRUARY, 1939

[Every endeavour is made to ensure accuracy, but we cannot be responsible for errors]

	Crafts-men.	Lab-ourers.
Aberavon	1/7½	1/2½
Aberdare	1/7½	1/2½
Abergavenny	1/7	1/2½
Abingdon	1/6	1/1½
Accrington	1/7½	1/2½
Aldeburgh	1/4	1/0
Aldershot	1/6	1/1½
Alfreton	1/7½	1/2½
Alnwick	1/7	1/2½
Altrincham	1/7½	1/2½
Amble	1/7	1/2½
Amersham	1/6	1/1½
Ammanford	1/7½	1/2½
Andover	1/5½	1/1½
Ardingley	1/5½	1/1½
Arundel	1/5½	1/1½
Ascot	1/5½	1/1½
Ashby-de-la-Zouch	1/6	1/1½
Ashford (Kent)	1/5½	1/1½
Ashford(Middlesex)	1/7½	1/2½
Ashington	1/7	1/2½
Ashtead	1/7½	1/2½
Ashton-under-Lyme	1/7½	1/2½
Aylesbury	1/5½	1/1½
Aylsham	1/4½	1/0½
Bagshot	1/5½	1/1½
Banbury	1/5½	1/1½
Barnsley	1/7½	1/2½
Barnstaple	1/5½	1/1½
Barrow-in-Furness	1/7½	1/2½
Barry	1/7½	1/2½
Basingstoke	1/5½	1/1½
Bath	1/7	1/2½
Batley	1/7½	1/2½
Beaconsfield	1/6	1/1½
Beccles	1/4	1/0
Bedford	1/7	1/2½
Berkhamsted	1/5½	1/1½
Berwick	1/7	1/2½
Beverley	1/7½	1/2½
Bexhill-on-Sea	1/6	1/1½
Bideford	1/5½	1/1½
Biggleswade	1/5	1/0½
Billericay	1/5	1/0½
Birchington	1/5½	1/1½
Birkenhead	‡§1/10	¶
Birmingham	1/7½	1/2½
Bishop Auckland	1/7½	1/2½
Bishops Stortford	1/6½	1/2
Blackburn	1/7½	1/2½
Blackpool	1/7½	1/2½
Blyth	1/7½	1/2½
Bognor Regis	1/5½	1/1½
Bolton	1/7½	1/2½
Bournemouth	1/6½	1/2
Bracknell	1/5½	1/1½
Bradford	1/7½	1/2½
Bradford-on-Avon	1/4½*	1/0½
Braintree	1/5½	1/1½
Brentwood	1/7	1/2½
Bridgwater	1/6	1/1½
Bridlington	1/7	1/2½
Brighouse	1/7½	1/2½
Brighton	1/6½	1/2
Bristol	1/7½	1/2½
Broadstairs	1/5½	1/1½
Bromsgrove	1/7	1/2½
Buckley	1/7½	1/2½
Bungay	1/3½	11½
Burnham-on-Crouch	1/4	1/0
Burnley	1/7½	1/2½
Burslem	1/7½	1/2½
Burton-on-Trent	1/7½	1/2½
Bury	1/7½	1/2½
Bury St. Edmunds	1/5	1/0½
Buxton	1/7	1/2½
Byfleet	1/6	1/1½
Cambridge	1/7	1/2½
Canterbury	1/5½	1/1½
Cardiff	1/7½	1/2½
Carlisle	1/7½	1/2½
Carnforth	1/7½	1/2½
Castleford	1/7½	1/2½
Caterham	1/7½	1/2½
Chard	1/4½*	1/0½
Chatham	1/6½	1/2
Chelmsford	1/7	1/2½
Cheltenham	1/6½	1/2
Chepstow	1/6½	1/2
Chertsey	1/6½	1/2
Chester	1/7½	1/2½
Chesterfield	1/7½	1/2½
Chichester	1/5½	1/1½
Chorley	1/7½	1/2½
Cirencester	1/5*	1/0½
Clacton	1/5½	1/1½
Cleveleys	1/7½	1/2½
Clitheroe	1/7½	1/2½
Cobham (Surrey)	1/6½	1/2
Colchester	1/7	1/2½
Colwyn Bay	1/6½	1/2
Congleton	1/7	1/2½
Coventry	1/7½	1/2½
Cranbrook	1/5½	1/1½
Cranleigh	1/5½	1/1½
Crawley	1/5½	1/1½
Crewe	1/7	1/2½
Cromer	1/4½	1/0½
Crowborough	1/5½	1/1½
Cuckfield	1/5½	1/1½
Darlington	1/7½	1/2½
Darwen	1/7½	1/2½
Daventry	1/6	1/1½
Deal	1/5½	1/1½
Denbigh	1/6	1/1½
Derby	1/7½	1/2½
Devizes	1/4*	1/0
Dewsbury	1/7½	1/2½
Didcot	1/5½	1/1½
Diss	1/4	1/0
Doncaster	1/7½	1/2½
Dorchester	1/5*	1/0½
Dorking	1/6	1/1½
Dover	1/5½	1/1½
Dovercourt	1/5½	1/1½
Driffield	1/6	1/1½
Droitwich	1/7	1/2½
Dudley	1/7	1/2½
Dunstable	1/6	1/1½
Durham City	1/7½	1/2½
Eastbourne	1/6½	1/2
E. Glam. (Mon. Val.)	1/7½	1/2½
East Grinstead	1/5½	1/1½
Edenbridge	1/5½	1/1½
Ely	1/4	1/0
Epping	1/7½	1/2½
Exeter	1/7†	1/2½
Exmouth	1/6	1/1½
Fakenham	1/4½	1/0½
Falmouth	1/6	1/1½
Fareham	1/6½	1/2
Faversham	1/5½	1/1½
Felixstowe	1/6½	1/2
Filey	1/6	1/1½
Fleetwood	1/7½	1/2½
Flint	1/7½	1/2½
Folkestone	1/5½	1/1½
Frinton-on-Sea	1/5½	1/1½
Frome	1/4½*	1/0½
Gainsborough	1/6½	1/2
Gateshead	1/7½	1/2½
Gillingham (Kent)	1/6½	1/2
Glossop	1/7½	1/2½
Gloucester	1/7†	1/2½
Godalming	1/5½	1/1½
Goole	1/7½	1/2½
Gosport	1/7	1/2½
Grantham	1/6½	1/2
Gravesend	1/7	1/2½
Great Yarmouth	1/5½	1/1½
Grimsby	1/7½	1/2½
Guildford	1/5½	1/1½
Guilsborough	1/6	1/1½
Halifax	1/7½	1/2½
Hanley	1/7½	1/2½
Harpenden	1/6½	1/2
Harrogate	1/7½	1/2½
Hartlepools	1/7½	1/2½
Harwich	1/5½	1/1½
Haslemere	1/5½	1/1½
Hastings	1/5½	1/1½
Hatfield	1/7	1/2½
Haywards Heath	1/5½	1/1½
Hednesford	1/7	1/2½
Hemel Hempstead	1/6½	1/2
Henley-on-Thames	1/5½	1/1½
Hereford	1/5½*	1/1½
Herne Bay	1/5½	1/1½
Hertford	1/7	1/2½
Heysham	1/7½	1/2½
Hitchin	1/6	1/1½
Hoddesdon	1/7	1/2½
Holt (Norfolk)	1/4	1/0
Horley	1/5½	1/1½
Horsham	1/5½	1/1½
Horwich	1/7½	1/2½
Huddersfield	1/7½	1/2½
Hull	1/7½	1/2½
Hunstanton	1/4½	1/0½
Huntingdon	1/5	1/0½
Ilfracombe	1/5½	1/1½
Ingatestone	1/6	1/1½
Ipswich	1/7	1/2½
Isle of Thanet	1/5½	1/1½
Isle of Wight	1/4½	1/0½
Keighley	1/7½	1/2½
Kenilworth	1/7½	1/2½
Kettering	1/7	1/2½
Kidderminster	1/7	1/2½
King's Lynn	1/5½	1/1½
Kirkham	1/7½	1/2½
Knowle	1/7	1/2½
Lancaster	1/7½	1/2½
Leamington	1/7½	1/2½
Leatherhead	1/6½	1/2
Leeds	1/7½	1/2½
Leicester	1/7½	1/2½
Leighton Buzzard	1/4½	1/0½
Letchworth	1/6	1/1½
Lewes	1/5½	1/1½
Lichfield	1/6½	1/2
Lincoln	1/7½	1/2½
Littlehampton	1/5½	1/1½
Liverpool	‡§1/10	¶
Llandudno	1/6½	1/2
Llanelly	1/7½	1/2½
London—		
12 m. radius	1/9*	1/3½
12-15 m. radius	1/8½*	1/3½
Long Eaton	1/7½	1/2½
Longton	1/7½	1/2½
Loughborough	1/7½	1/2½
Louth	1/6	1/1½
Lowestoft	1/5½	1/1½
Luton	1/7	1/2½
Macclesfield	1/7	1/2½
Maidenhead	1/6	1/1½
Maidstone	1/6	1/1½
Malvern	1/6	1/1½
Manchester	1/7½	1/2½
Manningtree	1/4½	1/0½
Mansfield	1/7½	1/2½
March	1/4½	1/0½
Margate	1/5½	1/1½
Market Harborough	1/6½	1/2
Matlock	1/6	1/1½
Melton Constable	1/4	1/0
Melton Mowbray	1/6½	1/2
Merthyr	1/7½	1/2½
Middlesbrough	1/7½	1/2½
Middleton	1/7½	1/2½
Middlewich	1/7	1/2½
Milford Haven	1/6	1/1½
Morecambe	1/7½	1/2½
Morley	1/7½	1/2½
Mundesley	1/4½	1/0½
Nantwich	1/7	1/2½
Nelson	1/7½	1/2½
Newark-on-Trent	1/7	1/2½
Newbury	1/5½	1/1½
Newcastle-on-Tyne	1/7½	1/2½
Newcastle-u-Lyme	1/7½	1/2½
New Forest	1/4½	1/0½
Newmarket	1/5½	1/1½
Newport, Mon.	1/7½	1/2½
Newport Pagnell	1/5½	1/1½
Northampton	1/7½	1/2½
Norwich	1/7½	1/2½
Nottingham	1/7½	1/2½
Nuneaton	1/7½	1/2½
Oakham	1/6	1/1½
Oldham	1/7½	1/2½
Ormskirk	1/7½	1/2½
Oxford	1/7	1/2½
Oxted	1/6	1/1½
Paignton	1/7	1/2½
Peterborough	1/7	1/2½
Plymouth	1/7½	1/2½
Pontefract	1/7½	1/2½
Pontypridd	1/7½	1/2½
Port Talbot	1/7½	1/2½
Portsmouth	1/7	1/2½
Preston	1/7½	1/2½
Pulborough	1/5½	1/1½
Ramsgate	1/5½	1/1½
Reading	1/7	1/2½
Redditch (Northern)	1/6½	1/2
Redhill	1/6	1/1½
Ripon	1/6	1/1½
Rochdale	1/7½	1/2½
Rochester	1/6½	1/2
Rugby	1/7½	1/2½
Saffron Walden	1/4½	1/0½
St. Albans	1/7	1/2½
St. Helens	1/7½	1/2½
St. Neots	1/4½*	1/0½
Salisbury City	1/4½*	1/0½
Salisbury Plain	1/6½*	1/2
Sawbridgeworth	1/6	1/1½
Saxmundham	1/4	1/0
Scarborough	1/7	1/2½
Scunthorpe	1/7½	1/2½
Selby	1/7½	1/2½
Sevenoaks	1/6	1/1½
Sheerness	1/5	1/0½
Sheffield	1/7½	1/2½
Shipley	1/7½	1/2½
Shoeburyness	1/7	1/2½
Shoreham	1/6½	1/2
Shrewsbury	1/6½	1/2
Sittingbourne	1/5½	1/1½
Skegness	1/6½	1/2
Sleaford	1/6	1/1½
Slough	1/6½	1/2
Southampton	1/7	1/2½
Southend-on-Sea	1/7	1/2½
Southport	1/7½	1/2½
South Shields	1/7½	1/2½
Spalding	1/5½	1/1½
Stafford	1/7	1/2½
Staines	1/6½	1/2
Stamford	1/6½	1/2
Stevenage	1/6	1/1½
Stockport	1/7½	1/2½
Stockton-on-Tees	1/7½	1/2½
Stoke-on-Trent	1/7½	1/2½
Stourbridge	1/7	1/2½
Stourport	1/7	1/2½
Stowmarket	1/4½	1/0½
Stratford-on-Avon	1/6½	1/2
Stroud	1/6†	1/1½
Sunderland	1/7½	1/2½
Sutton Coldfield	1/7½	1/2½
Swaffham	1/4	1/0
Swanage	1/5½*	1/1½
Swansea	1/7½	1/2½
Swindon	1/6*	1/1½
Tamworth	1/7	1/2½
Taunton	1/5½	1/1½
Tenterden	1/5½	1/1½
Thames Haven	1/7½	1/2½
Thetford	1/5	1/0½
Thorpe Bay	1/7	1/2½
Todmorden	1/7½	1/2½
Tonbridge	1/6	1/1½
Torquay	1/7	1/2½
Totnes	1/5½	1/1½
Trowbridge	1/4½*	1/0½
Truro	1/4½	1/0½
Tunbridge Wells	1/6	1/1½
Uppingham	1/6	1/1½
Uttoxeter	1/6	1/1½
Wakefield	1/7½	1/2½
Walsall	1/7½	1/2½
Walsden	1/7½	1/2½
Walton-on-Naze	1/5½	1/1½
Ware	1/7	1/2½
Warminster	1/4½*	1/0½
Warrington	1/7½	1/2½
Warwick	1/7½	1/2½
Wellingborough	1/7	1/2½
Welwyn	1/6½	1/2
Welwyn Gar. City	1/7½	1/2½
Wells (Norfolk)	1/4	1/0
West Bromwich	1/7½	1/2½
Westcliff-on-Sea	1/7	1/2½
Weston-super-Mare	1/6½	1/2
Weybridge	1/6½	1/2
Weymouth	1/5*	1/0½
Whitby	1/6½	1/2
Whitstable	1/5½	1/1½
Widnes	1/7½	1/2½
Wigan	1/7½	1/2½
Wigton	1/6	1/1½
Willington	1/7	1/2½
Wilmslow	1/7½	1/2½
Winchester	1/6	1/1½
Windermere	1/6	1/1½
Windsor	1/6½	1/2
Wisbech	1/5	1/0½
Witham	1/5½	1/1½
Woking	1/6	1/1½
Wokingham	1/5½	1/1½
Wolverhampton	1/7½	1/2½
Woodbridge	1/5	1/0½
Worcester	1/7	1/2½
Workington	1/6	1/1½
Worksop	1/7	1/2½
Worthing	1/5½	1/1½
Wrexham	1/7	1/2½
Wroxham	1/5	1/0½
Wycombe	1/6	1/1½
Wymondham	1/4½	1/0½
Yeovil	1/6	1/1½
York	1/7½	1/2½

* Painters 1d. less than other Craftsmen. † Painters ½d. less than other Craftsmen. ‡ Plasterers 1/10½.

¶ Tradesman's Labourers 1/4½. Navvies and General Labourers 1/4.

§ Joiners, Plumbers, Bricklayers, Tilers and Masons receive 2/- per week or 4d. per day Tool Money.

For Building Trade Wages in Scotland, see page 722

PRICES CURRENT OF MATERIALS*

Note: Owing to the exceptional circumstances which prevail at the present time prices of materials should be confirmed by inquiry.
The softwood prices are the maxima established by the Timber Control Department.
At present linseed oil and genuine spirits of turpentine can only be supplied in cans in small quantities.
Lead can only be obtained for Government or A.R.P. work and urgent repairs.

BRICKS, &c.

Delivered to site, City and Central Area, Full Lorry Loads. £ s. d.
Best Stocks 4 15 0
Second Hard Stocks 4 8 0

Per 1,000. Delivered at London Goods Stations.

2½ in. Phorpres.	King's Cross Station. per 1,000. s. d.	To sites in W.C. District. per 1,000. s. d.
Pressed bricks	46 3	50 6
Cellular bricks	46 3	50 6
Keyed bricks	48 3	52 6
Cellular Keyed bricks	48 3	52 6
Rustic bricks	*66 3	*70 6
Cellular Rustic bricks	*66 3	*70 6
Single Bullnose	64 3	68 6
White bricks	*66 3	*70 6
Sandfaced bricks	—	75 6

* Subject to a special discount of 2s. per 1,000 ft. accompanied by order for Pressed.

	£ s. d.
White Midhurst Facing Bricks (delivered London site)	3 12 6
Best blue Pressed Staffs	8 6 6
Do. Bullnose	8 16 6
Blue Wire Cuts	7 4 0

Best Stourbridge Fire Brick :—
2½ in. ..... 7 15 0 3 in. 8 15 0

GLAZED BRICKS—

Best White Ivory and Salt Glazed Stretcher	24 0 0	D'ble Str'tch'rs	32 10 0
		D'ble Headers	29 10 0
Headers	23 10 0	One side & two ends	33 10 0
Quoins, Bullnose Splays and 4½in. Flats	30 10 0	Two sides & one end	34 10 0
		Squints	31 0 0

Second Quality, £1 per 1,000 less than best. Cream and buff, £2 extra over white. Other colours. Hard Glaze, £5 10s. extra over white.

PARTITION SLABS.

Delivered London Area.

"PHORPRES" HOLLOW PARTITION BLOCKS.

2" per yd. sup.	2 3	3" per yd. sup.	2 9
2½" " "	2 6	4" " "	3 1

CLINKER CONCRETE.

2" per yd. sup.	1 6	3" per yd. sup.	2 0
2½" " "	1 8	4" " "	2 4

CRANHAM TERRA COTTA.

2" per yd. sup.	3 0	3" per yd. sup.	3 8
2½" " "	3 6	4" " "	4 7

HEMPSTEAD—KEYED TWO SIDES.

12" x 9" x 2"	2 6	12" x 9" x 3"	3 0
12" x 9" x 2½"	2 9	12" x 9" x 4"	3 9

SAND.

Per yard super d/d. Free on site, London.

Thames Ballast	7 9	per yd.	delivered 2 miles radius Paddington.
Pit Ballast	7 3	" "	
Pit Sand	9 9	" "	
Washed Sand	10 9	" "	
¾in. Shingle	8 0	" "	
¾in. Broken Brick	12 0	" "	
Pan Breeze	8 3	" "	

CEMENT.

Best British Portland Cement. Standard Specification delivered London Area in jute sacks (11 to ton), or paper bags (20 to ton) free (non-returnable) :—

	£ s. d.
4 ton loads and upwards site ..... Per ton	2 3 0
1 ton to 4 tons site	2 6 0
Alongside Vauxhall in 80-ton lots	2 0 6
"Ferrocrete" Rapid Hardening Cement :—	
4 ton loads and upwards site	2 9 0
1 ton to 4 tons site	2 12 0
Alongside Vauxhall in 80-ton lots	2 6 6

Stores in Reserved Bins at Works 1/6 ton extra.

NOTE.—Jute sacks are charged 1s. 6d. each and credited 1s. 6d. nett, if returned in good condition within three months, carriage paid.

"Aquacrete" Water Repellent, "Blue Circle" Cement, 30/- per ton extra on ordinary "Blue Circle" Portland Cement prices.

"Colorcrete" Nos. 1 and 2 Coloured Rapid Hardening Portland Cement in 1-cwt. paper bags free (non-returnable) in 1-ton lots and upwards site 3 14 0

"Colorcrete," not rapid-hardening, in 1-cwt. paper bags free (non-returnable), according to colour, from £7 to £15 10s. per ton.

"Snowcrete" White Portland Cement in 1-cwt. paper bags free (non-returnable)

	£ s. d.
1 ton and upwards site	8 15 0
Super Cement (Waterproof) paper bags free	3 13 0
Roman Cement £6 15 Keene's Cement, White	5 10 0
Parian Cement £5 10 " " Pink	5 2 6

Cementone Colours for cement according to tints per cwt. from £2 16s. 0d.

PLASTER.

	£ s. d.		£ s. d.
Coarse, Pink	3 0 0	Sirapite, Coarse	3 10 0
" White	3 10 0	" Finish	3 18 0
Pioneer	3 10 6		
Super Carbo	2 7 6	4-ton loads and over London Area, paper bags free.	
Carbo Setting	2 12 6		
Best Ground Blue		Grey Stone Lime	2 2 0
Lias Lime	1 17 6	Chalk Lime	2 2 0
Granite Chippings	1 5 0	Hair per cwt.	2 7 6

NOTE.—Sacks are charged 1s. 9d. each, and credited 1s. 6d., if returned in good condition within three months, carriage paid.

Stourbridge Fireclay in sacks 37s. per ton at rly. dep.

STONE.

BATH STONE.—Delivered in railway trucks at Westbourne Park, Paddington, G.W.R., or South Lambeth, G.W.R., per ft. cube .... s. d. 2 10½

BEER STONE—RANDOM BLOCK—
Free on rail at Seaton Station, per ft. cube 2 3
Delivered free on rail Nine Elms, S.R. " 3 1½
Selected approximate size one way, 1d. per cubic ft. extra, selected approximately three sizes or for special work, 3d. per cubic ft. extra.

PORTLAND STONE—
Brown Whitbed, in random blocks of 20 ft. average, delivered in railway trucks at Nine Elms, S. Rly., South Lambeth Station, G.W.R., and Westbourne Park, Paddington, G.W.R., per ft. cube ..... s. d. 4 5
Do. do. delivered on road waggons as above stations, per ft. cube 4 6
White basebed, 3d. per ft. cube extra.
NOTE.—1d. per ft. cube extra for every ft. over 20 ft. *average* and ½d. beyond 30 ft.

HOPTON-WOOD STONE—
F.O.R. Quarries, Wirksworth, Derbyshire, Random blocks from 10 ft. and over P.ft.cb. 14 0
Sawn two sides. 22 6

HOPTON-WOOD STONE—
Sawn three or four sides. 27 9

YORK STONE, BLUE—*Robin Hood Quality.*
Delivered at any Goods Station, London.
6 in. sawn two sides landings to sizes (under 30 ft. super) .....per ft. super 5 0
6 in. rubbed two sides, ditto .. " 5 6
3 in. sawn two sides slabs (random sizes) ..... " 2 3½
2 in. to 2½ in. sawn one side slabs (random sizes) (paving) ..... " 1 6½
1½ in. to 2 in., ditto. ..... " 1 3¼

HARD YORK—
Delivered at any Goods Station, London.
Scrappled random blocks. .....per ft. cube 6 3
6 in. sawn two sides landings to sizes (under 40 ft. super) .....per ft. super 5 1½
6 in. rubbed two sides, ditto .... " 6 1½
4 in. sawn two sides slabs (random sizes) ..... " 3 1½
3 in. ditto ditto ..... " 2 5
2 in. self-faced random flags ..... Per yd. super 7 6

CAST STONE.

Delivered in London are in full van loads, per ft. cube : Plain, 7s. 6d. Moulded, 8s. 6d. Sills, 10s. 0d.

HARD WOOD.

1 INCH AND UP THICK.

Average price for prime quality.	£ s. d.
Dry Austrian Wainscot, per ft. cube.	0 17 0
Dry American and/or Japanese Figured Oak, per ft. cube. .....10 0 to	0 12 6
Dry American and/or Japanese plain Oak, per ft. cube	0 11 6
Dry sq. edged Honduras Mahogany, per ft. cube.	0 15 0
Dry log-cut Honduras Mahogany, per ft. cube. .....12 6 to	0 16 0
Dry Cuba Mahogany, per ft. cube.	0 18 0
Dry Teak, per ft. cube.	0 14 0
Dry American Whitewood, per ft. cube.	0 10 6
Dry Australian Walnut, per ft. cube	0 17 0
Dry Queensland Silky Oak, per ft. cube. ...	0 11 0
Dry African Mahogany, per ft. cube	0 10 0
Dry African Whitewood, per ft. cube.	0 8 0
Dry English Wainscot Oak, per ft. cube.	0 16 0
Best Scotch Glue, per cwt.	3 0 0
Liquid Glue, per cwt. .....4 7 0 to	5 10 0

SOFT WOOD.

GOOD BUILDING DEAL.

Inches.	Per stan.	Inches.	Per stan.
4 ×11.	£38 10	3 × 6.	£31 10
4 × 9.	38 10	3 ×11.	38 10
4 × 8.	35 10	2 ×11.	38 10
4 × 7.	35 10	3 × 9.	37 10
3 × 8.	32 10	2½× 9.	37 10
3 × 7.	31 10	3 × 4½	30 0
2½× 7.	31 10	3 × 4.	30 0

Having secured the Contract— What about the Steel Scaffolding?

For the lowest Prices apply to the Oldest Firm in The Scaffolding Trade.

STEPHENS & CARTER LTD.
The British Steel Scaffolding Co.
Paddington Green, London, W.2.
Telephone No. PADDINGTON 7661 (6 lines).

PLANED BOARDS.

1 ×11.	£43 10	1 × 9.	£39 10

PLAIN EDGE FLOORING.

Inches.	Per sq.	Inches.	Per sq.
¾.	22/6	1¼.	38/-
⅞.	25/-	1½.	42/6
1.	28/6		

TONGUED AND GROOVED FLOORING.

Inches.	Per sq.
1	29/-
1¼.	38/6
1½.	43/-

MATCHING (BEST)

Inches.	Per sq.
⅝	23/-
¾	25/-
1	29/-

Ins. BATTENS.	s. d.
¾×2 per 100 ft.	2 9

SAWN LATHS.	s. d
Per bundle	2 6

SLATES.

First quality slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate Station. Per 1,000 actual.

	£ s. d.		£ s. d.
24 by 12 ..	31 5 0	18 by 10	16 10 0
22 by 12 ..	26 5 0	18 by 9	14 17 6
22 by 11 ..	23 12 6	16 by 10 ..	14 7 6
20 by 12 ..	23 2 0	16 by 8 ..	11 6 0
20 by 10 ..	20 15 0		

TILES.

Delivered at London rate stations in full truck loads of not less than 6 tons. ..... Per 1,000 f.o.r. London.

	£ s. d.
Best machine-made tiles from Broseley or Staffordshire district.	£4 2 6
Ditto hand-made ditto	4 17 6
Ornamental ditto	5 2 6
Hip and valley tiles (per dozen) { Hand-made	0 8 6
{ Machine-made.	0 8 0

METALS.

JOISTS, GIRDERS, &C., TO LONDON STATION PER TON—

	£ s. d.
R.S. Joists, cut and fitted	£16 0 0
Plain Compound Girders	19 0 0
" " Stanchions	21 0 0
In Roof Work	25 0 0

NOTE.—These prices are for standard pieces and not special pieces of an awkward nature.

MILD STEEL ROUNDS.—To London Stations, per ton.

Diameter.	£ s. d.	Diameter.	£ s. d.
¼ in.	16 12 6	⅝ in. to ½ in. ..	15 2 6
⅜ in.	15 12 6	⅝ in. to 2⅜ in.	14 12 6

WROUGHT-IRON TUBES AND FITTINGS—
(Discount off List for lot of not less than £10 net value delivered direct from Works, 2½ per cent. less above gross discounts, carriage forward, if sent from London Stocks.)

	Standard Wrot. Mild Steel Tubes. and Tubulars. Sizes. ⅛in. to ⅛in. %	Standard Wrot. Mild Steel Tubes. and Tubulars. Sizes. ⅛in. to 2in. %	Standard Flanges. Sizes. ⅛in. to 2in. %	Standard Fittings. %
Gas	60	65	62½	58⅓
Water	57	62½	62½	55
Steam	53⅓	58⅓	51⅔	50
Gal. gas	50	55	51⅔	48⅓
Galv. water	45	50	43⅓	43⅓
Galv. steam	38⅓	43⅓	38⅓	40

C.I. HALF-ROUND GUTTERS—London Price ex Works.

Per yd. in 6 ft. lengths.	Gutters.	Angles and Nozzles.	Stop Ends.
3 in.	1/2	11½d.	3½d.
3½ in.	1/3	1/1	3½d.
4 in.	1/3	1/2	5d.
4½ in.	1/4	1/4	6d.
5 in.	1/7	1/5½	7d.
O.G. GUTTERS.			
3 in.	1/6	1/3½	4d.
3½ in.	1/8	1/3½	5d.
4 in.	1/8	1/4	6d.
4½ in.	1/9	1/7	7d.
5 in.	2/2	1/9½	8d.

RAIN WATER PIPES, &C.

Per yd. in 6 fts.	Pipe.	Bends, angles.	Stock Branches stock angles.
2 in.	1/9	1/2	1/9
2½ in.	1/10	1/4	2/1
3 in.	2/3	1/8	2/6
3½ in.	2/8	2/0	2/11
4 in.	3/1	2/5	3/6

NETT PRICES.
Tonnage allowance—4-ton lots, 5 per cent.
2-ton lots, 2½ per cent.

L.C.C. COATED SOIL PIPES—London Prices, ex Stock,

	Pipe. s. d.	Bends, stock angles. s. d.	Stock Branches. angles. s d.
2in. per yd. in 6 fts.	3 0	2 1	2 6
2½ in. "	3 6	2 4	3 2
3 in. "	3 9	2 6	3 10
3½ in. "	3 10	3 2	4 5
4 in. "	4 3	3 6	5 0

L.C.C. COATED DRAIN PIPES.—London Prices, ex Stock,

	Pipe. s. d.	Bends, stock angle. s. d.	Branches. stock angles. s. d.
3 in. per yd. in 9 ft. lengths	4 6	5 6	8 9
cwt.qr.lbs.			
4 in. " 1 1 20	6 5	6 3	11 0
5 in. " 1 2 22	8 0	11 3	17 0
6 in. " 2 0 6	9 6	13 0	21 3

Gaskin for jointing 40/- per cwt.

* The information given on this page has been specially compiled for THE BUILDER, and is copyright. The aim in this list is to give, as far as possible, the *average* prices of materials, not necessarily the highest or lowest. Quality and quantity obviously affect prices—a fact which should be remembered by those who make use of this information. Prices are subject to 2½ per cent. cash discount.

PRICES CURRENT OF MATERIALS—(contd.)

IRON—	Per ton. £ s. d.			London. £ s. d.
Common Bars	12 15 0	..		13 15 0
Staffordshire Crown Bars—Good merchant quality	14 10 0	to	16 0 0	
Staffordshire Marked Bars	18 0 0	..	19 0 0	
Mild Steel Bars	12 18 0	..	13 18 0	
Steel Bars, Ferro-Concrete quality, basic price	14 8 0	..	15 8 0	
Hoop iron, basic prices	14 8 0	..	15 8 0	
„ Galvanised	24 8 0	..	26 8 0	
IRON—	Per ton in London. £ s. d.			£ s. d.
Soft Steel Sheets, Black—				
Ordinary sizes, to 20 g.	16 5 0	..		17 5 0
„ „ 24 g.	17 5 0	..		18 5 0
„ „ 26 g.	18 5 0	..		19 5 0
Sheets, Flat, Best Soft Steel, C. R. and C.A. quality—				
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 22 g. and 24 g.	17 10 0	..		18 10 0
Ordinary sizes, 6 ft. by 2 ft. to 3 ft. to 26 g.	19 10 0	..		20 10 0
No. 1 quality £4 per ton extra.				
Flat and Galvanised Corrugated Sheets—				
Ordinary sizes 6 ft. to 9 ft. to 20 g.	18 5 0	..		20 5 0
Ordinary sizes, 6 ft. to 9 ft. to 22 g. and 24 g.	18 15 0	..		22 5 0
Ordinary sizes, 6 ft. to 9 ft. to 26 g.	20 15 0	..		22 15 0
Sheets, Gavanised, Flat, Best quality—				
Best Soft Steel Sheets, 6 ft. by 2 ft. to 3 ft. to 20 g. and thicker	19 5 0	..		22 5 0
Best Soft Steel Sheets, 22 g. and 24 g.	20 5 0	..		21 15 0
Best Soft Steel Sheets, 26 g.	21 15 0	..		22 15 0
Cut Nails, 3 in. to 6 in.	19 0 0	..		21 0 0

(Under 3 in. usual trade extras.)

METAL WINDOWS.—Standard sizes, suitable for complete houses, including all fittings, painting two coats and delivery to job, average price about 1s. 4d. to 1s. 7d. per foot super.

COPPER.

		s. d.
Seamless Copper tubes (basis)	per lb.	1 1
Strong sheet	„	1 3
Thin	„	1 4
Copper nails	„	1 3
Copper wire	„	1 3

PLUMBERS' BRASS WORK.

Delivered in London.
Stamped by Met. Water Board.

CRUTCH HEAD SCREW DOWN BIB COCKS FOR IRON. EASY CLEAN.

½ in.	¾ in.
29/-	45/- per doz.

CHROMIUM PLATED TOILET SCREW DOWN BIB COCKS FOR IRON. EASY CLEAN.

½ in.	¾ in.
40/-	59/- per doz.

SCREW DOWN STOP COCKS FOR IRON.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
31/-	44/6	75/-	175/-	250/-	396/- per doz.

SCREW DOWN STOP COCKS WITH TWO UNIONS FOR LEAD.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
42/6	65/-	102/-	195/-	210/-	510/- per doz.

DOUBLE NUT BOILER SCREWS.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
7/6	9/-	14/-	24/-	37/6	54/- per doz.

HEAVY CROYDON BALL VALVES.

½ in.	¾ in.	1 in.	1¼ in.	1½ in.	
33/6	55/6	85/-	165/-	237/-	per doz.

CAPS AND SCREWS.

1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.	
9/-	11/-	16/6	29/-	42/-	45/-	per doz.

BRASS FERRULES OF SLEEVES.

1½ in.	2 in.	3 in.	3½ in.	4 in.	
9/6	11/6	20/6	26/-	37/-	per doz.

DRAWN LEAD TRAPS WITH BRASS CLEANING SCREWS.

	1¼ in.	1½ in.	2 in.	3 in.
8 lb. Lead P...	17/6	23/-	32/6	66/6 per doz.
8 lb. Lead S...	21/6	27/6	39/6	73/- per doz.

SOLDER.—Plumbers', 1/2, Tinmen's, 1/4, Blowpipe, 1/6 per lb.

PAINTS, &c.

		£ s. d.
Raw Linseed Oil, in drums	per gallon	0 3 10
Boiled „ „ in drums	„	0 4 2
Turpentine, in drums (10 gals.)	„	0 5 10
Genuine Ground English White Lead, per ton (In not less than 5-cwt. casks.)		53 0 0

Extra for 1-cwt. kegs over 5-cwt. casks is 2/9 cwt.

GENUINE WHITE LEAD PAINT.

	£ s. d.
"Father Thames," "Nine Elms," "Park," "Supremus," "St. Paul's," "Morganswyte," "Polacco," "J" Brand, and other best brands (in 14-lb. tins) not less than 5-cwt. lots per ton delivered	72 10 0
Red Lead, Dry (packages extra) per ton	45 0 0
Best Linseed Oil Putty per cwt.	0 15 0
Size. XD quality fkn.	0 3 6

Turpentine substitute can be obtained and prices vary according to the quality from 2/9 gallon upwards.

VARNISHES, &c.

		Per gallon.
Oak Varnish	Outside	0 14 0
Fine do.	„	0 16 0
Fine Copal	„	0 18 0
Pale Copal	„	1 0 0
Pale Opal Carriage	„	1 4 0
Best do.	„	1 12 0
Floor Varnish	Inside	0 18 0
Fine Pale Paper	„	0 18 0
Fine Copal Cabinet	„	1 2 0
Fine Copal Flatting	„	1 0 0
Hard Drying Oak	„	0 18 0
Fine Hard Drying Oak	„	0 19 6

		Per gallon.
Fine Copal Varnish	Inside	1 0 6
Pale do.	„	1 12 0
Best do.	„	1 2 6
Best Japan Gold Size		1 12 6
Best Black Japan		0 10 0
Oak and Mahogany Stain (water)		0 12 0
Brunswick Black		0 7 6
Berlin Black		0 14 0
Knotting (patent)		0 15 0
French and Brush Polish		0 12 0
Liquid Dryers in Terebene		0 9 0
Cuirass Black Enamel		0 7 0

GLASS.

ENGLISH SHEET GLASS IN CRATES OF STOCK SIZES.

ORDINARY GLAZING QUALITY AND SELECTED GLAZING QUALITY.

	per ft. super.		per ft. super.
18 oz. O.Q.	2¼d.	32 oz. O.Q.	5½d.
18 „ S.Q.	2⅝d.	32 „ S.Q.	6½d.
24 „ O.Q.	3⅛d.	Obscured Sheet, 18 oz.	3d.
24 „ S.Q.	3⅝d.	„ „ 24 „	4½d.
26 „ O.Q.	3⅝d.	Fluted 21 „	9d.
26 „ S.Q.	4⅛d.	Em'lld 18 oz., 5½d., 24oz.6⅝d.	

Extra price according to size and substance for squares cut from stock.

ENGLISH ROLLED PLATE AND FIGURED CATHEDRAL, ETC., IN CUT SIZES.

	Per ft.
Rolled plate, ⅛ in.	5½d.
Rough cast double rolled, 3/16 in.	6½d.
Rough cast double rolled, ¼ in.	6½d.
Figured rolled, etc., white	6½d.
Figured rolled, etc., tinted	9½d.
Rolled Sheet	6d.
White rolled cathedral	6d.
Tinted rolled cathedral	8½d.

Rolled plate is the same price as rough cast double rolled.

	Per ft. s. d.
Reeded, Broad Reeded, Cross Reeded and Chevron Reeded, ⅛ in. thick	0 10½
Wire Rolled, ⅛ in. thick	0 9½
Wired Cast, ⅛ in. thick	0 9½
"Calores" Sheet, 21 oz.	2 6
„ „ 32 oz.	4 0
„ Cast, ⅛ in. thick	0 10
„ „ 3/16 in. thick	1 0
„ „ ¼ in. thick	1 2

"VITA" GLASS.

	s. d.
Clearsheet—not exceeding 1 foot	1 0
„ 2 feet	1 3
„ over 2 feet	1 9
Polished plate not exceeding 1 foot	1 6
„ „ 2 feet	3 0
Cathedral—not exceeding 1 foot	1 0
„ larger size	1 6
Horticultural Sheet and Cathedral "Vita" Glass Sizes up to 24 inches by 18 inches or not exceeding 3 feet	1 0
3/16 in. Wired Georgian Design. Sizes up to 96 inches long by up to 24 inches wide	2 6

LEAD, &c.

(Delivered in London.)	Per ton. £ s. d.
LEAD.—Sheet, English, 4 lb. and up	27 5 0
Pipe in coils	27 15 0
Soil pipe	32 5 0
Compo pipe	34 0 0

NOTE.—Country delivery, 20/- per on extra, lots under 3 cwt. 4/- per cwt. extra and over 3 cwt. and under 5 cwt., 2/6 per cwt. extra. Cut to sizes, 4/- per cwt. extra.

Old lead, ex London area, at Mills per ton £17 0 0

BUILDING TRADE WAGES IN SCOTLAND

Following are grade rates authorised by the Scottish N.J.C. from April 1. Every endeavour is made to ensure accuracy, but we cannot be responsible for errors that may occur.

Grade Classification	A	A¹	A²	A³	B	B¹
Craftsmen	1/8	1/7½	1/7	1/6½	1/6	1 5½
Labourers	1/3	1/2¾	1/2¼	1/2	1/1½	1 1¼

Aberdeen	A	Dumfriesshire	A³	Inverness	*
Ayrshire	A	Dundee	A	Inverurie	A¹
Banff	B	Dunoon	A	Kincardineshire	A³
Berwickshire	A³	East Fife	A	Kinross-shire	A
Bridge of Allan	A	East Lothian	A	Lanarkshire	A
Broughty Ferry	A	Edinburgh	A	Midlothian	A
Clackmannanshire	A	Fifeshire	A	Monifieth	A
Doune	A	Forfarshire	A³	Moray and Nairn	B
Dunblane	A	Glasgow	A	Newport	A
Dumbartonshire	A	Greenock	A	Peeblesshire	A³
Dumfries	A¹	Hamilton	A	Perth	A
Perthshire	A³				
Peterhead	A¹				
Renfrewshire	A				
Rothesay	A				
Roxburghshire	A³				
St. Andrews	A				
Selkirkshire	A³				
Stewartry	A³				
Stirlingshire	A				
Stornoway	A³				
Tayport	A				
West Lothian	A				

*This town has its own rates: Masons, 1/6; Carpenters, 1/6; Slaters, 1/6; Plumbers, 1/6½; Plasterers, 1/7, but 1/8 is paid owing to the scarcity at present; Painters, 1/6 and Labourers, 1/1½.

The information given in this table is copyright. Rates of wages in England and Wales are given on page 720.

THE SCOTTISH BUILDER

NEW BUILDINGS

ABERDEEN.—HEADQUARTERS.—The Corporation has decided to erect at Lodge-walk new headquarters for the police from plans by Mr. Albert Gardner, 11, Broad-street, The Castlegate.

ABERDEENSHIRE.—SCHOOL.—Mr. George Watt, 214, Union-street, Aberdeen, is architect for additions to the Whitestripes school, for which contracts will be placed on an early date.

Now Published — Sixth Edition

Revised throughout and greatly enlarged, superseding all previous issues.

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B. T. BATSFORD, LTD.

Architectural Publishers,

15, North Audley Street, London, W.1.

DUNDEE.—BUILDINGS.—The following plans have been lodged at the office of the City Engineer:—41, Blackness-road, alterations to shop for Trustees of St. Joseph's R.C. Church; Charleston-drive, garage for Moxham Partners, Ltd. (architects, Thoms and Wilkie, 21, South Tay-street); Crescent-street, first-aid post for Baxter Brothers and Co., Ltd. (architect, T. L. Gray, 7, Ward-road); 78, High-street, alterations to shop for the Saxone Shoe Co., Ltd. (architects, Johnston and Baxter, 49, Meadowside); Lochee-road, alterations to dance hall for Thomas Glennan (architects, Allan and Friskin, 26, Castle-street).

FIFE.—BATHS.—The Fife Miners' Welfare Committee have received intimation from the Miners' Welfare Committee, London, that it is intended to start at an early date the pithead baths at Glencraig Colliery and at the new colliery at Comrie, which is to be opened by the Fife Coal Co., Ltd.

GLASGOW.—BUILDINGS.—The Dean of Guild Court has approved plans for Messrs. Cooper, MacDougall and Robertson, Ltd., for additions to their chemical works at Lochburn; the Corporation, for extension to the garage at Craigton-road, and Messrs. Connal and Co., Ltd., for a store in Brand-street at Lendel-street.

LANARKSHIRE.—POLICE STATION.—The C.C. has been recommended to proceed with a police station, garage and cleansing station at Rutherglen.

LINLITHGOW.—BRIDGE.—The Stirlingshire C.C. has approved of plans prepared by Mr. J. Battison, The Inn Hotel, for reconstruction, alterations and additions to the bridge.

REDDING.—SCHOOL.—Plans prepared by Mr. Andrew Malcolm, Old Infirmary-buildings, Spittall-street, Stirling, for alteration and addition at the public school.

TENDERS

The Editor welcomes authentic information for this feature from architects, surveyors or contractors. Items should reach 4, Catherine-street, Aldwych, W.C.2, not later than Wednesday morning.

Tenders for A.R.P. work will be found under "A.R.P. Schemes."

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government departments.*

Aberdeen.—Works for new staff home and the radiology department at Woodend Hospital and the cubicle isolation block at the City Hospital, for T.C. :—Cubicle isolation block, City Hospital : plaster, *J. Scott and Son (Aberdeen), Ltd.; terrazzo, *Toffolo, Jackson and Co.; joiner, *A. Hall and Sons (Builders), Ltd.; radiology department, Woodend Hospital : plaster, *J. Scott and Son (Aberdeen), Ltd.; terrazzo, *Toffolo, Jackson and Co.

Bilston.—Extensions to works, for Bradley and Co., Willenhall-st. A. E. Baxter, architect, 1, Walsall-st., Willenhall :—*E. Warren Baxter, Wolverhampton.

Brigg.—Alteration to fire station, for U.D.C. N. D. Preston, E. and S. :—

F. J. Brown, Scunthorpe	£393 17
‡R. M. Phillips and Son, Brigg ...	265 4
G. Berman, Scunthorpe	254 1

Deal.—A.R.P. shelters at North Deal Council school, for T.C. G. A. M. Gentry, B.E. :—

Francois Cementation Co., Doncaster	£910 0
R. Corben and Son, Maidstone...	897 0
G. H. Denne and Son, Deal ...	832 0
C. and F. Martin, Maidstone ...	811 0
L. M. Ryman, Whitstable	700 2
Stroud and Reberts, Whitstable	695 14
R. Whitehead, Mansfield	690 0
*A. A. Cavell and Son, Duke-st., Deal	654 0
E. T. Brazier, Deal	645 0

Dunston-on-Tyne.—Factory on Team Valley estate, for Danish Bacon Co. Cackett, Burns Dick and MacKellar, architects, Ellison-pl., Newcastle :—*J. R. Rutherford and Sons, Minories Joinery Works, Jesmond, Newcastle.

Dunston-on-Tyne.—Garage on Team Valley Trading estate, for St. Mary's Motors, Ltd. Hetherington and Wilson, architects, County-chams., Newcastle :—*Hadden and Hillman, 127, New Bridge-st., Newcastle.

Durham.—Works at Earl's House Sanatorium, for C.C. :—Renovations, *G. D. McPhee, Durham, £223; central heating, *Herron and Son, £117; additional bedroom at gardener's cottage, *Bell and Ridley, Durham, £119.

Gargrave.—Extensions to Airebank Mills, for Johnson and Johnson (Great Britain), Ltd. James Hartley and Son, F. and A.R.I.B.A., architects, Swadford-chams., Skipton :—*T. Duckett and Son, Belmont Wharf, Skipton.

Garturk.—Reconstruction and extensions to Garturk Hospital. T. Somers, architect, George-sq., Glasgow :—Plumber and sanitary engineering : *H. Twaddle and Sons, Ltd., Bridgeton, £18,200 8s. 3d.; slating and roughcasting : *A. C. Whyte and Co., Ltd., Pollokshaws, £8,370 10s.; plaster, lathing, *G. and R. Weymss, Ltd., Glasgow, £3,514 11s.

Gateshead.—Block of offices at Messrs. Davidson's glassworks, The Teams. Arthur and Kirkup, architects, Swinburne-street :—*J. R. Rutherford and Sons, Minories Joinery Works, Jesmond, Newcastle.

Glasgow.—Alterations and additions, for J. and R. Tennant, Ltd., The Wellpark Brewery :—*Direct Labour Dept.

Glasgow.—Electricity sub-station at Bellahouston-dr. Herbert Bell, electrical engineer and architect, Waterloo-st., Blythswood, Glasgow :—Excavation, brick and mason, *R. W. Stewart and Co., Ltd., Glasgow, £590.

Kilsyth.—108 houses. Samuel Buntin, architect, 235, Bath-st., Blythswood, Glasgow. R. Galbraith, quantity surveyor, 65, Bath-st., Blythswood, Glasgow :—Excavation, brick and building : *Allan Bros., Watson and Henderson, Chryston; joinery, carpentry and ironmongery : *Wilson and Garden, Kilsyth; glazing : *J. Thow and Co., Ltd., Ayr; roof tiling, slating and roughcasting : *D. Logan and Sons, Ltd., Kilsyth; plumber and sanitary engineering : *T. Porter and Sons, Ltd., Glasgow; plaster, lathing : *P. Whyte and Co., Ltd., Glasgow; roads, sewers : *A. Stewart and Sons, Glasgow; electrical fittings and installation, etc. : *J. Edwards, Glasgow.

Lanarkshire.—Works, for C.C. W. Brown, County Housing Architect, Clydesdale-st.-chams., Hamilton :—Road works at Marnock housing site, Glenboig : *Hugh B. Kerr, Ltd., Blantyre, £9,235 10s. 9d.; improvement at Glassford masonry works : *R. Paterson, Strathavon, and Robert Marchbanks and Son, Larkhall, £346 15s. 9d.; improvement at new Monkland school and manse, Glenmavis; *L. B. White, Mossend, £622 18s. 11d.

Lancashire.—Works, for C.C. P. Schofield, C.S., Preston :—Widening and reconstruction of bridges carrying Southport-Tarleton-rd. over sluices and back-drain water courses in North Meols, nr. Southport : *L. Fairclough, Ltd., Chapel-st., Adlington, nr. Chorley; widening and strengthening of Brownside bridge, carrying Burnley-Worsthorne-rd. over River Brun, Worsthorne; *T. Varley and Son, Ltd., Whalley, nr. Blackburn; construction of Meols new bridge carrying diversion of Southport-Tarleton-rd. over Fine Janes brook, Southport : *Norwest Construction Co., Ltd., Ruthven-rd., Litherland, Liverpool; widening and reconstruction of Oldham-rd. railway bridge, Ashton-under-Lyne : *L. Fairclough, Ltd.; administrative block reconstruction and additions to County Mental Hospital, Whittingham (W. P. Horsburgh and Son, architects, 2, Exchange-st. East, Liverpool, 2) : ‡T. Croft and Sons, Ltd., Holme Slack Works, Blackpool-rd., Preston.

Leyton.—Works, for T.C. :—Fire drill tower at Church-rd. fire station : *Steel Scaffolding Co., Ltd., £141 5s. 8d.; protection work at Church-rd. fire station : *Grover and Co., Forest Gate, £393.

DON'T TENDER UNSUCCESSFULLY

SECURE CONTRACTS WITH

THE STEEL SCAFFOLDING CO., LTD.

"BIG BEN TOWERS." 23, OATLANDS DRIVE, WEYBRIDGE, SURREY. 'Phone: Walton 614 and 615.

Lincoln.—Extensions, for Board of Management of Lincoln Hospital. Watkins and Coombes, F. & A.R.I.B.A., architects, Silver-st. :—*W. Wright and Son, Park-st., Lincoln.

Lisnaskea.—Maintenance and other works, for R.D.C. R. Irvine, Clerk of Council, Boardroom, Workhouse :—Allan H. Tisdall, Lisnaskea, £68 19s.; Thos. Peter Maguire, Clancallick, Newtownbutler, £44 19s. 9d. (Accepted tender not stated.)

London (M.W.B.).—Works for Board :—6,000 lin. yds. of cleft chestnut fencing, 5 ft. high, around excavations on site of Walton Reservoir No. 1, *Lewisham Timber Co., Ltd., £473; painting and repairing subway and pipes under L. & N.E.R. track at Enfield, *Direct Labour, £210; repairs and painting, Turnford pumping station, *Direct Labour, £210; painting 23 bridges in Enfield section of New River, together with rail fencing, etc., at Maidens Brook, and roof covering, etc., *Direct Labour, £200.

¶London.—Contracts placed for hutments by War Office :—Derbyshire, Henry Boot and Sons, Ltd., Banner Cross Hall, Ecclesshall-rd. South, Sheffield, 11; Kent, W. F. Blay, Ltd., 27, Albemarle-st., W.1; Wiltshire, W. E. Chivers and Sons, Ltd., Estcourt-st., Devizes; Lancashire and Gloucestershire, Richard Costain, Ltd., Dolphin-sq., London, S.W.1; Yorkshire, G. Dougill and Sons, Ltd., Chesnut-st., Darlington; Oxfordshire and Berkshire, J. B. Edwards and Co. (Whyteleafe), Ltd., Kenley House, Kenley; Glamorganshire, Griggs and Son, Ltd., Victoria-st., S.W.1; Leicestershire, Gee, Walker and Slater, Ltd., 3, Fitzmaurice-pl., Berkeley-sq., W.1; County Durham (2 sites), M. J. Gleeson, Ltd., London-rd., North Cheam; Devonshire, Higgs and Hill, Ltd., Crown Works, South Lambeth, S.W.8; Carmarthenshire, F. R. Hipperson and Son, Ltd., 6, Broad-st.-pl., E.C.2; Gloucestershire, John Knox and Co. (Bristol), Ltd., Coronation-rd., Bristol, 3; Northamptonshire and Staffordshire, Wm. Moss and Sons, Ltd., Queen's-rd., Loughborough; Lancashire, Geo. Moss and Sons, Ltd., Pennington Saw Mills, Leigh; Yorkshire, W. G. Robson, Ltd., Bamforth-st., Sheffield, 6; Dorset, A. N. Coles (Contractors), Ltd., Sutton-rd., Plymouth; Nottinghamshire, F. Perks and Son, Ltd., Bridge-st., Long Eaton; Lancashire, Jonathan Partington, Ltd., Middleton Junction, Manchester; Yorkshire, Piggott Bros. and Co., Ltd., 220-226, Bishopsgate, E.C.2; Cornwall, Staverton Builders, Ltd., Staverton, Totnes; Middlesex, Speirs, Ltd., 66, Victoria-st., S.W.1; Yorkshire, Stewart and Partners, Ltd., 105, Baker-st., W.1; Lincolnshire and Yorkshire, Tarran Industries, Ltd., Clough-rd., Hull; Shropshire, W. M. Thornton and Sons, Ltd., 38, Wellington-rd., Liverpool, 8; Cumberland and Cheshire, Wilson, Lovatt and Sons, Ltd., Clarence-st., Wolverhampton; Middlesex, G. E. Wallis and Sons, Ltd., Broadmead Works, Maidstone; Cornwall (3 sites) and Wiltshire, Western Engineering Co., Ltd., Engineers' Wharf, Ruislip-rd., Southall; Merionethshire, C. Bryant and Son, Ltd., 55-65, Whitmore-rd., Small Heath, Birmingham; Warwickshire, E. H. Burgess, Ltd., Great West-rd., Brentford; Bedfordshire, Gee, Walker and Slater, Ltd., 3, Fitzmaurice-pl., London, W.1.

Macclesfield.—(a) Laying of 8 miles of water mains and (b) supply of pipes, for T.C. :—(a) *Direct labour (estimated cost £130,000); (b) *Stanton Iron Works, Ltd., nr. Nottingham, £17,411.

Middlesbrough.—Works, for T.C. C. Gorman, B.E. :—Cleansing station at North Ormesby police station : *Stephen Coates, Ltd., Langburgh-pl., North Ormesby, Middlesbrough; shelter at Education Offices : *A. E. Hobbs, Hill House, Norton-on-Tees, £329.

Northampton.—Electrical installation at new police buildings for C.B. *Grensells, Ltd., Kettering, £3,246.

Preston.—Alterations to premises at Brookhouse Mill, for J. and A. Leigh, Ltd., Brookhouse Mills. Walter Stirrup and Son, F. and A.R.I.B.A., architects, 14, Richmond-ter., Blackburn :—*T. Croft and Sons, Ltd., Holme Slack Works, Blackpool-rd., Preston.

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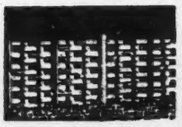
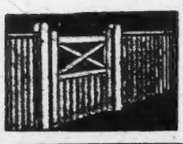

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